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CHICAGO

**TWENTY-FOURTH
ANNUAL REPORT**

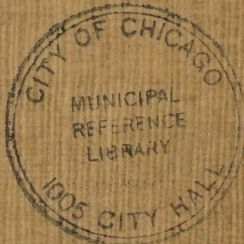
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OF
HEALTH**

**CITY OF DETROIT
FOR THE FISCAL YEAR ENDING
JUNE 30th, 1905**



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Twenty-Fourth Annual Report

OF THE

BOARD OF HEALTH

OF THE

CITY OF DETROIT

FOR THE FISCAL YEAR ENDING JUNE 30

1905



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REPORT OF THE HEALTH OFFICER.

DETROIT, MICH., July 1, 1905.

To the Honorable the Board of Health:

GENTLEMEN:—

Following is the report of the Health Officer for the fiscal year ending June 30th, 1905:

Personal Investigation of Cases.

During the year I have investigated for the purpose of diagnosis two hundred and sixteen cases that were reported to the office as suspicious of smallpox or some other contagious disease. The persons examined were found to be suffering from various diseases as follows: Smallpox, 40; chickenpox, 29; vaccinia, 4; scarlet fever, 56; diphtheria, 15; tonsillitis, 7; measles, 5; syphilis, 7; other diseases, 53; under the head of "other diseases" may be found such ailments as urticaria, acne, impetigo, eczema and several others.

Vaccination

The vaccinations performed during the year were mostly in cases of school children who had not been previously protected. There have been but few cases of smallpox in Detroit during the year, and nearly all of them came in from out of the city, so that the number of exposures was comparatively small. In nearly all instances we found upon examining exposed persons that they had been vaccinated during the general house to house vaccination that was conducted in this city two years ago. Although there are probably many persons in Detroit still who have never been vaccinated, it is my belief that the majority of our citizens are protected. During the year we have had one of the medical staff on

REPORT OF THE BOARD OF HEALTH

duty at the office every morning from ten to twelve o'clock for the purpose of vaccinating free of charge any person who might apply to this office for such protection.

Smallpox.

During the fiscal year there have been in Detroit and under the care of the Board of Health forty cases of smallpox. This is a small number, and when you consider that the great majority of the cases came into the city after having been exposed and infected outside, the result is gratifying. Two years ago we were overrun with an epidemic, and during that year the board of health cared for 1,003 cases of smallpox. Last year the number fell to ninety-nine, and this year there were only forty. On July 10th the first case was reported, a young man who had come from Milwaukee, Wis., where he had contracted the disease. The next case, which we found on July 18th, came from Lansing, Mich. Then came a family of four from Milan, Mich., and another case came on Nov. 29th from Owosso, Mich. All of these cases recovered and the last one was discharged on Dec. 12th, ending the outbreak. But we were not long to be free from smallpox, and on January 11th we discovered a case that had come in from the western part of the state. From that time until June 24th the disease was continuously with us. At times there was only one case in our care, but new ones would come in from time to time. There was one death. When you consider that there have been severe epidemics in Jackson, Grand Rapids and other cities in the state, Detroit is to be congratulated on having so small a number of cases.

Scarlet Fever.

It is my pleasure to again report a decrease in the number of cases of scarlet fever. The year ending June 30, 1904, showed a decrease over the year previous, and now again the number is reduced. During last year there were 575 cases cared for at their respective homes and 72 at Harper Hospital, making a total of 647 cases, whereas this year the total number was only 384.

There is no doubt that our system of medical inspection of school children had much, if not all, to do with this reduction. Under the head of the medical inspection of schools I will cite cases to show how scarlet fever was checked in the schools in more than one instance. Whenever a child was excluded from school, the building was immediately disinfected and all possible precautions taken to prevent any spread of the disease. Public school teachers have remarked repeatedly on the scarcity of this and other communicable disease in the schools, and they are satisfied that the medical inspection of schools has had much to do with bringing about this very desirable result. The mortality from this disease was low, there being 22 deaths, or a little less than 6 per cent.

Diphtheria.

Diphtheria shows a striking reduction in the number of cases. Last year there were 1,433 cases, with a mortality of 192, or $13\frac{1}{2}$ per cent., whereas this year the number of cases was 893, with only 83 deaths, or a little over 9 per cent. The reduction is even greater than would at first appear, inasmuch as the 1,433 cases last year did not include 179 cases treated at Harper Hospital, but the number this year (893) includes 188 cases treated at Harper.

Here again we have the medical inspection of schools to thank for the saving of lives and of illness. This year was the first time that the medical inspectors were paid, and as a result their work was more rigid and thorough and the results obtained more satisfactory.

Another factor which has aided in the restriction of diphtheria is a liberal use of antitoxin. This remedy has been given freely to physicians for purposes of immunization and as a result a great many additional cases of diphtheria in families where one case existed have been prevented. For this purpose antitoxin is furnished free of charge by the Board of Health to physicians apply-

ing for it whether the family for whom it is to be used is able to pay or not, but for curative purposes it is furnished only to persons too poor to pay for the remedy.

Tuberculosis.

We have not yet succeeded in making tuberculosis a "notifiable disease," nor will we do so until the disease is specifically included in the list of diseases mentioned in the state law. Physicians do not seem inclined to report cases of consumption and this of course interferes very greatly with our work against one of the most fatal communicable diseases. Besides the precautions taken heretofore against the spread of this disease, we have had twenty-five hundred "no spit" signs made, which will be posted in conspicuous places throughout the city.

During the year "An Association for the Study and Prevention of Tuberculosis" was formed in Detroit, and Commissioner S. T. Douglas, of the Board of Health, is its first president. Like similar organizations throughout the country, the Detroit society proposes to aid in the restriction of tuberculosis by conducting a campaign of education, teaching the general public the danger of the disease and how to prevent it.

Typhoid Fever.

In accordance with the order of your honorable board, issued April 30, 1904, and making typhoid fever a notifiable disease, a number of physicians have reported their cases to this office. During the year there were 152 such cases reported, but inasmuch as there were 45 deaths from typhoid, there must have been several hundred cases that remained unreported. However, the reporting of even a part of our cases seems to have had some effect in the restriction of the disease, for judging by the number of deaths there were fewer cases of typhoid in Detroit this year than for several years previous. During this year, as I have said, there were but forty-five deaths from typhoid, while last year there were 64, and the year ending June 30, 1903, there were 60 deaths. It is my opinion that the majority of our cases of typhoid are con-

tracted outside of the city, at various summer and country resorts, and that after they have been brought into the city in this manner the disease is spread by means of close contact and by means of house-flies carrying the contagion. Whenever a case is reported to this office we furnish the householder with literature instructing them as to the prevention of the disease and calling particular attention to the causes mentioned above. I believe that the cautioning and instructing of 152 typhoid infected homes as to the restriction of the disease has had its effect.

Pneumonia.

Pneumonia vies with consumption for first place as a cause of deaths. It is my intention to have pneumonia placed on the notifiable list this fall, and as it is a disease so acute in its course I hope for better and more complete reports than from tuberculosis or even typhoid fever. At present we limit our precautionary methods to disinfection of the premises in case of death from pneumonia, and we depend upon our "anti-spit" crusade to do much good in the prevention of this disease.

Examination of Air in Schools and Other Buildings.

During the year these examinations have been continued and changes and alterations have been made in a number of buildings with a view to improving the ventilation. Street cars have also been examined during the winter months, and we have endeavored to have the company adopt ventilating devices. I have had assurances from the Detroit United Railway Company that they will equip their cars with ventilators when they can find some suitable device. In the meantime the company has issued an order to its conductors that at least two of the small ventilating windows must be kept open all the time during cold weather.

Medical Inspection of Schools.

This system has been much improved during the year. After the appropriation of \$2,500 had been allowed for this purpose a new arrangement was made by your honorable board. Ten physi-

cians were appointed at a salary of \$250 per year each and seven schools were put in charge of each inspector. In this way all of the public schools have a daily medical inspection. Late in the year four additional volunteer inspectors were appointed, one for each of four parochial schools. A summary of the work done will be found in the registrar's report. It shows that the total number of pupils examined was 25,247, and the total number excluded for contagious diseases was 1,693. A detailed account of some of the exclusions may be of interest. On October 25th Reuben S. returned to school after having been absent two days. Dr. Hills examined the child and found him to have symptoms of scarlet fever. The patient was sent home, as were also his two brothers, and the health officer notified. After the diagnosis had been verified the house was quarantined. On November 11th another child in the same family came down with the disease. Had it not been for the examination at the school the first case would have remained in the school room during the period of desquamation and a number of cases would undoubtedly have resulted. As it was, no additional cases followed. Again on November 10th Dr. Kuhn excluded from the Campau school Helen W., who had remained at home for a day on account of a sore throat. A culture was taken which showed the case to be one of true Klebs-Loeffler diphtheria. On November 2d a case of diphtheria was excluded from the Newberry school. Dr. Richards on that day examined the throats of all of the children and ten were excluded for tonsillitis. Bacteriological examination showed that two of them were diphtheria. It is reasonable to suppose that all of these children with their inflamed throats would have contracted diphtheria had they been exposed to the disease for a longer period. On November 12th two children were excluded from the Alger school and one of them was found to have diphtheria, and again on November 17th Dr. Frazer excluded Jeannette B. from the Berry school because he suspected diphtheria. A subsequent clinical and bacteriological examination confirmed the doctor's sus-

picion. On November 23d Dr. Hills called me up and reported that George C. had returned to school after an absence of two days and the doctor gave it as his opinion that the boy had scarlet fever. The diagnosis was found to be correct and the boy was quarantined at home. These are only a few of the 1,600 cases that were excluded, but they will suffice to emphasize the importance of this work. When you look at the summary in the registrar's report and note that 17 children were sent home because they were in school ill with scarlet fever, 21 with diphtheria and 581 with tonsillitis, you must agree with me that the medical inspection of schools has had much to do with the restriction of these contagious diseases.

It is the intention the next school year to extend the work by appointing one volunteer inspector for each parochial and private school in the city. I have had a conference with Bishop Foley about this plan and he has assured me of the co-operation of himself and of his clergy.

Another extension of the work that will be undertaken next school year is the examination of eyes and ears of the children, together with an accurate physical examination. Dr. Walter R. Parker has consented to take up the eye and ear work and it is my intention to give the examinations in conjunction with this work my personal attention. The eye and ear examinations will be begun in the ninth grade of the high schools.

Milk Inspection.

During the year thirteen milkmen have been complained against in court by your milk inspectors. In all cases convictions were obtained and in only one case was sentence suspended. This latter milkman was complained against for maintaining a nuisance in the shape of a filthy cow-stable and dairy. One offender was charged with hindering inspectors in their work. He refused to allow the milk inspectors to take samples of his milk. He was convicted in the police court and appealed his case to the Recorder's court. There he was again convicted after a trial by jury. The

remaining 11 complaints were for selling milk which was found to be below the legal chemical standard and all of the violators were convicted and fined.

On July 19, 1904, the new milk ordinance was approved, but it did not go into actual effect until May, 1905, because the old licenses were in force until that time. The new ordinance which was passed at the request and solicitation of your honorable board, has two principal provisions from which we expect good results. Formerly anyone could engage in the milk business by simply applying to the police department for a license, which was granted upon payment of one dollar, without any requirements being made of the applicant. The new ordinance provides that application for license to sell, deliver or distribute milk shall be made in writing to the Board of Health upon form prescribed by said board. After such application has been made and before the license is granted the milk inspector makes an examination of the dairy or milk depot and unless certain sanitary requirements of the Board of Health are met with, the license is refused. The result so far has been that nearly five hundred dirty old cow sheds from which milk was formerly sold have been refused licenses and have gone out of business.

Another section of the ordinance provides: That no person, partnership or corporation shall sell or deliver or have in his or their possession for sale in the City of Detroit any milk which has been watered or adulterated, or which contains any preservative or unhealthful ingredient, constituent or substance, which has been transported or stored in an unclean manner, or which has been kept at a temperature above 50 degrees Fahrenheit, or which is produced from cows which are kept or stabled under unhealthful conditions, or which may be diseased; nor shall any milk be sold or delivered in said city which is procured from any farm or dairy where any contagious or infectious or communicable disease may exist.

As a result of this section milk dealers are installing their wagons with ice receptacles, keeping the milk during the hot

weather at a temperature below 50° Fahrenheit as required by the ordinance.

Cleaning up dairies and stables and requiring the milk to be kept at a low temperature is bound to have a beneficial effect, and I believe that in another year the improvement in Detroit's milk supply will be manifested in a reduction of the infant mortality rate which up to the present time has remained unnecessarily high in our city.

Collection of Garbage.

In the report of the Sanitary Engineer will be seen the tabulated record of the number of complaints received for the non-collection of garbage. The total number of complaints was 3,139, as compared with 2,375 for the year previous, an increase of 764.

I have sent full weekly reports to the Common Council, giving account of each complaint, and I have sent several letters calling the Council's attention to the neglect on the part of the collector (The Detroit Sanitary Works). After a number of conferences between the officials of the Detroit Sanitary Works, the Committee on Health of the Common Council and the Health Officer it was decided that some change in the system of garbage collection was advisable. Accordingly a special committee was appointed by the Common Council to consider the matter. This committee was composed of the Committee on Health of the Common Council, the Commissioner of Public Works, the City Controller and the Health Officer. On June 6th the special committee made the following report to the Council:

To the Honorable the Common Council:

GENTLEMEN—Your Special Committee on Health, the Commissioner of Public Works, City Controller and Health Officer, to whom was referred the communication from the Detroit Sanitary Works relative to the sale of their plant to the city, also the resolution of Ald. Gibbons, presented at a session held on March 28th (J. C. C., p. 265), respectfully report that we have had the same under consideration and beg leave to state that while the Sanitary Company's offer to dispose of the plant is undoubtedly in good

faith, your committee was unable to take the same under consideration for reason of the fact that there was no available money with which to purchase said plant, nor has the bill now pending before the Legislature giving the City of Detroit the power and authority to erect a municipal plant been passed by both houses. We feel, nevertheless, that the present contract with the Detroit Sanitary Works does not properly care for the collection of garbage in the City of Detroit, which has been clearly demonstrated during the past few years by the many complaints which have been submitted to this body weekly by the Health Officer. Your committee feel that at any event the present contract should be terminated, and if the City of Detroit is not in a position to build its own plant during the ensuing fiscal year that new bids can be advertised for under specifications which will be much more advantageous to the city's interests than the present contract. We therefore recommend that the present ten year contract between the Detroit Sanitary Works and the City of Detroit be terminated as provided for in said contract, and that said company be paid the sum of \$1,500.00, and we therefore recommend the adoption of the following resolution.

Respectfully submitted,

W. P. KINGSLEY,
GEO. H. ELLIS,
WM. H. MAYBURY,
HOWARD C. BECK,
GUY L. KIEFER.

Accepted, and on leave the following resolution was offered:
By Ald. Kingsley:

Whereas, The present ten year garbage contract between the Detroit Sanitary Works and the City of Detroit provides that the city can terminate the contract at the end of the first five years, which terminate June 30th, 1906, provided, the city gives written notice thereof one year prior thereto, to wit: on or before June 30, 1905, and pay to the Detroit Sanitary Works the sum of fifteen hundred dollars (\$1,500), which was the difference between the five and ten-year bids of said company; therefore

Resolved, That the City Controller be and he is hereby directed to give written notice to the Detroit Sanitary Works of the election by the city to terminate said contract on June 30th, 1906.

After this action by the Common Council it will be necessary that some new arrangement be made for the disposal of garbage in Detroit on and after July 1, 1906.

Some time ago your honorable board recommended to the Common Council a system for the disposal of not only garbage but all other kinds of rubbish and waste. The DeCarie Incinerator appears to be a satisfactory device for this work. It will dispose of all manner of waste and at the same time, it is claimed, that the power generated by the incinerator can be used for commercial purposes, as, for example, for the electric lighting plant.

Smoke Inspection.

The detailed account of this work will be found in the report of the Smoke Inspector, hereto appended. It will be seen that a number of firms were complained against this year in court. It was the policy of your honorable board, when this work was introduced, to accomplish as much as possible by a campaign of education. Accordingly various firms were notified of the new ordinance and subsequently, when any were found violating the ordinance their attention was called to the offense. It has been thought reasonable now, after two years of advising and educating, to apply to the courts more readily. Not many fines have been imposed, but nearly all firms complained against have been found guilty and the results have been satisfactory in such cases.

Regulations Governing Houses of Prostitution.

Detroit is one of the few cities in the Union that has any regulation of this kind. The plan in vogue in this city was adopted three years ago, and has not been materially changed. The inmates of these houses are requested to present a physician's certificate of good health once in two weeks. These certificates are collected by police officers who are detailed for the work. Whenever an inmate is found ill with a communicable disease she is removed to an hospital until she is no longer able to transmit the disease.

This plan is by no means perfect. The examinations should be made more frequently and by public physicians, but even our plan is accomplishing considerable good in the restriction of venereal disease.

During the past year we have by this means found about twenty women who were suffering from these diseases in an acute stage and they were removed to the hospital department of the Detroit House of Correction.

Public Baths and Public Lavatories.

There is a great need for several public bath houses and even a greater need for public lavatories in the city. Your honorable board has several times asked for an appropriation for this purpose, but your request has never been granted. It is the experience of all cities where public baths have been established that these institutions become very popular and they are in a general way a benefit to public health. The want of lavatories in our city is appalling. There is perhaps no city of equal size in the Union to which more strangers come and yet there is no public comfort station of any kind. It is a fact and I have called attention to it before, that the areaways of some of our public buildings have been used as places of public convenience, and it is easy to be seen that in this way nuisances of the worst kind have been created.

This year an appropriation of \$10,000 has been allowed for the purpose of installing an underground lavatory on Cadillac Square, and I am satisfied that after this one has been installed it will be in such demand that others will soon be established in various parts of the city. The request for an appropriation for a public bath house was again denied by the Board of Estimates. Public baths are very necessary in this city and it is to be hoped that Detroit will be supplied with at least one such institution in the very near future. After one public bath house has been established our experience will be the same as that of other cities, the

bath house will be so popular that it will be followed by several others.

I therefore again recommend that your honorable board ask for an appropriation of funds for this very necessary purpose.

Hospital for Communicable Diseases.

The fight for an hospital for communicable diseases has assumed a new form. At last an appropriation of \$100,000.00 for this purpose has been granted. It was suggested by the Board of Estimates last year that the money necessary for this purpose be obtained by means of bonds. Accordingly your honorable board applied to the State Legislature and that body very wisely passed a law enabling the city to bond itself in the sum of \$100,000.00 for the purpose of erecting and equipping an hospital for communicable diseases. Then the matter was again referred to the Common Council and the Board of Estimates. The appropriation as asked for was allowed by both bodies. Subsequently your honorable body selected and purchased a site for the proposed building. This site is located on Brush street, between Alexandrine avenue east and Willis avenue east. No sooner was this fact made known than protests began to pour in. Meetings were held at which the protestors were heard, but your honorable board could see no good reason for changing the proposed location. Then the protestors petitioned the Common Council for relief, claiming that the new hospital would be a menace to the health of all persons living in the neighborhood and also that its presence would tend to decrease property values. Following is the copy of a letter which was sent by your honorable board to the Common Council as an answer to the petition submitted by the protestors:

To the Honorable the Common Council:

GENTLEMEN—The following is an answer to the petition of those persons who object to the erection of the proposed Contagious Disease Hospital upon the site selected by the Board of Health, bounded by Willis and Alexandrine avenues and Brush street, and which petition was presented to your honorable body on June 6,

and also to those who met the Board of Health at the Board of Health building on June 3 to discuss this matter, and also a statement of the reasons why, in the opinion of the Board of Health, it is, from a scientific and medical point of view, an entirely proper, safe, accessible and suitable location for this hospital.

Following this are copies of legal opinions received from the office of the Corporation Counsel upon the same subject, and which are hereby made a part of this answer.

As to the necessity of a hospital for contagious diseases in this city. The law under which the Board of Health is constituted makes it the duty of that board "to procure suitable places for the reception of persons afflicted with malignant, contagious and infectious diseases, and in all cases where sick persons cannot be otherwise provided for, to procure for them medical and other attendance and necessaries." The city maintains an isolation hospital for the care of smallpox on Hamilton Boulevard, which will meet all demands for many years to come. It is not intended by the Board of Health to use the proposed Brush street hospital for the isolation and treatment of smallpox. This will be guaranteed to the future by the terms of the deed transferring the property to the city.

The proposed hospital is for the reception of patients suffering from scarlet fever, diphtheria, measles, chicken-pox, German measles, erysipelas, tonsillitis and such diseases as are communicated only by close association or actual contact with an infected person or object. Harper Hospital maintains a small isolation pavilion for the care of diphtheria and scarlet fever; with this exception, patients suffering from these diseases are not received in the general hospitals of the city.

Acting on these facts, the Board of Health has for three years asked for an appropriation for the purpose of establishing a proper hospital, and each year the matter has been fully discussed before the Common Council and the Board of Estimates, and the reasons presented why such a hospital is a necessity. It has been shown, for example, that of the cases of diphtheria treated outside of Harper Hospital the last fiscal year the mortality rate was 10 per cent. greater than of those treated at the hospital, while in the cases of scarlet fever the difference in the mortality rate was 2 per cent. in favor of hospital treatment.

Inasmuch as there were 1,252 cases of diphtheria treated at home, it is fair to conclude that if it had been possible to treat all

of these cases at a hospital, with no better facilities than there are at Harper's the result would have been a saving of 125 human lives. Applying the same reasoning to scarlet fever gives us a saving of 2 per cent. of 508 cases, or 10 human lives, from this disease.

Last year there were reported in Detroit 1,433 cases of diphtheria, but only 181 were sent to Harper, and of the 575 cases of scarlet fever reported, only 67 went to that hospital. The principal reason why so small a number was cared for at Harper was lack of room, and it is a fact that, even with so small a proportion of our cases going to the only hospital in the city available for that purpose, that hospital was on several occasions during the year so overcrowded that it was forced to refuse patients, and during these periods of time there was no place whatever in the City of Detroit to which cases of scarlet fever and diphtheria could be taken for treatment. This congested condition was almost continuous from March 26 (on which date the Board of Health made application for admission of two cases of scarlet fever which were refused) until about the middle of April. On the sixth day of that month Harper was filled with 19 cases of scarlet fever. In a small ward that should not receive more than three patients there were eight cases of scarlet fever, and they were so crowded that it was necessary to keep the eight children in five beds. These are a few of the arguments that have been advanced year after year by the Board of Health in favor of a contagious disease hospital. Following is the experience of some other cities:

In 1896 the City of Boston constructed, at the expense of \$650,000, the South Department of the Boston City Hospital for the care of contagious diseases. This hospital has received the hearty support of the medical profession and the people of Boston, and is one of the most popular institutions of the city. The influence of this institution in the restriction of the spread of diphtheria and scarlet fever and the reduction of the mortality in these diseases has been so marked that the larger cities in the east are rapidly following the example of Boston. New York, Philadelphia, Montreal and Worcester have erected contagious disease hospitals during the past year. In New York City the sum of \$7,000,000 has been granted to the Board of Health for the erection of a comprehensive system of hospitals in various parts of the city for the care of contagious diseases.

In Detroit, in 1904, there were reported to the board 2,008

cases of diphtheria and scarlet fever alone. The experience of Boston shows that over 60 per cent. of the reported cases of these diseases are cared for at the South Department. With a modern, well equipped and well administered hospital in Detroit the experience of Boston would probably be repeated. At the present time each quarantined house is a center of infection but feebly controlled by the Board of Health, and may remain so for months. The segregation in one well conducted hospital of 50 per cent. or more of the cases would be a most important factor in limiting the spread of these communicable and dangerous diseases. Without a hospital the efforts of the board must remain inefficient; with the hospital, all dangerous centers of infection can be abolished.

As the experience of other cities has proven, the hospital will be a safe and welcome retreat for rich and poor alike, and the income derived from patients able to pay for their attendance will go far toward the support of those who must, in the interest of the safety of the community, be cared for at the city's expense.

As your committee has received some expressions of opinion as to the communicability of these diseases and their method of transmission, the board submits for your information on this subject quotations from a few of the most prominent medical authorities of the United States and Europe. The quotations are all taken from the chapters on scarlet fever.

Analytical Cyclopedia of Medicine—Sajous; F. O. Davis Co., Philadelphia, 1905. Vol. V., p. 534. "The chief source of infection is the patient himself, but the area of contagion is limited to a few feet."

Medical Practice—Bain; Longmans, Green & Co., London, 1904, p. 834. "In the open the carrying distance must be very limited; at any rate, there is no special prevalence of the disease in the immediate neighborhood of isolated hospitals."

Diseases of Children—Meigs & Pepper; Blakiston., Philadelphia, 1882, p. 773. "The distance to which it may be carried by the air does not appear to exceed a few feet."

A System of Medicine—T. C. Allbutt; the McMillan Co., London, 1899, Vol. XI., p. 129. "That scarlet fever is not spread to any distance by aerial convection is well shown by the negative experience derived without exception from certain large fever hospitals whose walls are closely surrounded with small tenements for the most part crowded with young children."

Diseases of Children—J. Lewis Smith; Lea Bros., Philadelphia, 1896, p. 254. "The area of contagiousness of scarlet fever is small; it apparently embraces only a few feet."

The Encyclopedia Medica—Chalmers Watson; Longmans, Green & So., London, 1902, Vol. X., p. 490. "The distance of conveyance by aerial convection is not great. This is emphasized from the fact that residents in the immediate vicinity of a fever hospital do not suffer in consequence."

Twentieth Century Practice of Medicine—Stedman; Wm. Wood & Co., New York, 1898, Vol. XIV., p. 15. "In order that scarlatina can be transmitted immediately, the contact must be quite close, such as touching, kissing, inhaling the breath, etc."

Acute Contagious Diseases—Welsh & Schamberg; Lea Bros. & Co., Philadelphia, 1905, p. 357. "There is no evidence to indicate that scarlet fever contagion is disseminated by aerial transmission. The immediate vicinity of scarlet fever hospitals appears to be as free of the disease as other sections of the city. In this respect scarlet fever differs from smallpox, in which disease the territory immediately surrounding the hospital is apt to show a disproportionately large number of smallpox cases.

"The following figures are taken from the Medical and Surgical report of the Boston City Hospital, 1897:

Radius of $\frac{1}{8}$ mile from scarlet fever hospital.	00 cases
Radius of $\frac{1}{4}$ mile from scarlet fever hospital.	68 cases
Radius of $\frac{1}{2}$ mile from scarlet fever hospital.	71 cases
Radius of $\frac{3}{4}$ mile from scarlet fever hospital.	75 cases
Radius of 1 mile from scarlet fever hospital.	72 cases
Within 1 mile of the hospital.....	786 cases
Beyond mile limit	756 cases

"It is seen from the above figures that no cases developed within the $\frac{1}{8}$ mile limit about the hospital.

"Our experience at the Municipal Hospital at Philadelphia led us to believe that the striking distance of scarlet fever is extremely limited. It has been exceedingly rare for families in the immediate vicinity of the hospital to become attacked with scarlet fever, although they have not escaped smallpox."

A practical study of this question by the board confirms the opinions expressed by medical writers. Health authorities make no effort to isolate scarlet fever or diphtheria hospitals in unsettled parts of cities.

The South Department (contagious) of the Boston City Hospital, 300 beds, adjoins the grounds of the general hospital and is in one of the most thickly settled parts of the city.

The new Scarlet Fever Pavilion in New York, 400 beds, is built directly on the street on a small lot close to the Willard Parker Diphtheria Hospital and the Biological Laboratory and the Administration Building of the Health Department. This is one of the most thickly populated sections of New York. At a recent visit, two members of the Detroit Board of Health counted upwards of 300 children playing in one block near the hospital.

In both New York and Boston the conditions of the immediate neighborhood of these hospitals is most favorable to the spread of infection; still there is no evidence of the communication of the disease from them.

The experience in Detroit is the same. Harper Hospital, as is well known, maintains a small pavilion for the treatment of scarlet fever and diphtheria. This building is situated in the rear of the main building, about 90 feet from the south wing and about 60 feet from the abutting Brush street property. In warm weather, during convalescence, the children play freely in the grounds around the pavilion. This pavilion has been maintained for a number of years, and the report of January 1, 1905, shows that there were treated in the hospital 274 cases of contagious disease during the year. No complaint has come to the Board of Health from the residents of Alexandrine avenue, John R. street, Martin Place, Woodward Avenue Terrace, Brush or Brady streets of the presence of this hospital and there is no evidence that disease has been communicated beyond the grounds.

Although the two departments of the pavilion are separated from each other only by a brick wall and the windows open within a few feet of each other there have been no cases of the communication by aerial convection of either scarlet fever or diphtheria to the adjoining departments.

From the foregoing evidence the Board of Health can assure your committee that a hospital such as is proposed is no more a menace to the health of the vicinity than the three hospitals at present existing there.

To properly fulfill its object for the control of disease, such a hospital must be, above all, easily accessible to all parts of the city.

A hospital placed in a remote and unsettled part of the city would be feared and shunned; the apparent necessity for such

remote isolation would condemn it and seriously impair its usefulness.

Transportation of patients would be difficult and dangerous to delicate infants and children, who are the most frequent sufferers from the contagious diseases. The necessity of a long journey in the winter months, when diphtheria and scarlet fever are most prevalent, would often be an insurmountable difficulty in gaining the consent of parents to hospital isolation and treatment for their infected children.

To physicians and nurses easy accessibility is equally essential. The liberal policy pursued by Harper and Grace Hospitals toward the physicians of the city will be followed by the Board of Health. Any physician may bring his patients to the hospital for isolation and keep them under his care, subject only to the rules necessary to safeguard the community against personal convection of the disease. With the hospital centrally located and close to the hospital center of the city, physicians will more frequently recommend hospital treatment.

To the patient's relatives and friends, again, accessibility is essential. Mothers and fathers must visit their sick children and every facility should be given them, thus to soften the anxiety that separation entails, provided, of course, that all restrictions are observed to prevent the spread of contagion. It has been shown that a centrally located hospital is not a source of danger to its vicinity and it would be a cruelty on the part of the community to demand that the unfortunate subjects of contagious disease should be pushed unnecessarily into a remote and inaccessible part of the city.

Almost every act of the board which has for its object the safeguarding of the public health imposes upon the individual some monetary loss, inconvenience, or even hardship. While the board regrets that in the selection of a site for the hospital it has opposed the wishes of the property holders of the neighborhood, it must be mindful of the interests of the community at large and of the comfort, health and lives of those from whom it demands the sacrifice of isolation in the interests of the public health.

In regard to the disturbance of property values in the neighborhood of the site, which seems to be the controlling factor in the opposition to the action of the board. That the unfortunate agitation of the subject during the last few weeks has disturbed property values is quite possible, but the past sustained values of the

property in the immediate vicinity of the Harper Hospital contagious pavilion would show that when the present agitation subsides values will readjust themselves to their former point. That the proximity of the Harper Hospital contagious department has had little influence upon the value of surrounding property is shown by the fact that the Board of Health for 30 days in May held an option upon the property on Brush street in the rear of the hospital within 75 feet of the contagious pavilion from the agent of the Brush estate. The value of the property was held at \$50 per front foot, or 39 cents per square foot. The board purchased the apparently more deplorable location on Alexandrine avenue, distant at least 200 yards from Harper Hospital, and measuring approximately 322x260 feet, for 26 cents per square foot. The agent of the Brush estate gave the option with a full knowledge of the purpose for which it was to be purchased. He at that time, apparently, had no fear, from his past experience, of the effect of a contagious disease hospital upon his contiguous property.

The suggestion that some other site in a less desirable part of the city be selected cannot be entertained by the board. If the hospital is dangerous to the residents in the vicinity of the Brush street site it would be equally dangerous to the vicinity of a Beau-bien street site, or a Clinton street site.

If the hospital were a menace to the health of the residents of any locality the board, whose duty it is to conserve, not to endanger, the public health, would not recommend its erection on any site not properly and safely isolated from the rest of the city.

The Brush street site was selected because of its peculiar adaptability to the purposes of the hospital, and your committee has presented no arguments that impel the board to alter its decision.

June 10th, 1905.

Board of Health of City of Detroit:

GENTLEMEN—Your inquiry, made by Dr. Kennedy, with reference to the sole power of your board as to the selection of a site for the contagious disease hospital has been referred to me.

I beg leave to state that in my opinion the sole discretion in the premises is vested in your board, and neither the Common Council or any other authority has the right to interfere with that discretion.

On March 22d, 1904, Mr. Tarsney gave an opinion to the Hon. William C. Maybury, then Mayor of the city, as to the power of

the board in the premises, which opinion I understand is before your board, but the question of the sole discretion of your board in the premises was not then considered.

Yours very truly,

JOHN W. M'GRATH,

Chief Asst. Cor. Counsel.

June 10th, 1905.

Board of Health of the City of Detroit:

GENTLEMEN—I understand that the residents of the locality selected by the board as a site for the contagious disease hospital have protested against said selection on the ground that they feel that smallpox patients may be admitted and treated at the institution named, and Dr. Kennedy desires me to state what may be done by your board to avoid the objection.

In reply I desire to say: That in the deed from the grantor of the premises it may be expressly stated that the contagious disease hospital shall not be used for the reception, detention or treatment of persons afflicted with smallpox. The insertion of this restriction would preclude the board from such use. If, however, such restriction was inserted, it should be followed with a provision that said restriction should not be construed to interfere with the right of the City of Detroit or the Board of Health to dispose of said property at any time for any use consistent with the terms of said deed.

Very respectfully,

JOHN W. M'GRATH,

Chief Asst. Cor. Counsel.

All of which is respectfully submitted, with a request that this answer be printed in full in the minutes of your honorable body.

J. B. KENNEDY,

C. G. JENNINGS,

JOHN N. BAGLEY,

SAMUEL T. DOUGLAS,

Board of Health.

The next move on the part of the objectors was an attempt to have an ordinance passed making it unlawful to establish an hospital for contagious disease "within 500 feet of any dwelling, non-contagious disease hospital, factory, church, store or other building

or buildings where people live or congregate." This move failed, the proposed ordinance being indefinitely tabled by the Common Council.

The next step will probably appear in the shape of court proceedings. Your honorable board believes that it has selected the proper site and it is the intention to thereupon erect the hospital as proposed unless the courts decide that it is unlawful to do so.

Health Board Records and Reports.

The public records of the Board of Health are of great importance and are kept as carefully and accurately as possible. The reports of births to this office, and consequently the records of births are incomplete, because the law requiring physicians and accouchers to report births does not provide a penalty for persons who do not report the same. The result is that only a small fraction of the births in Detroit are recorded.

Our compilation of deaths is complete, inasmuch as no undertaker can bury a body without first obtaining a permit from this office to be presented to the cemetery officials. The system used for this compilation is known as the "International Classification" and may be referred to in the report of the registrar.

The vault that has been used for the filing of records is entirely filled and we have this year been using a closet in addition to the vault.

Acting upon the recommendation of the Health Officer your honorable board has this year asked for an appropriation for the construction of a proper and spacious vault so that the records may be protected in case of fire. The sum of \$350 has been allowed for this purpose and the vault will be constructed as soon as the money is available.

The Employees.

All of the employes of the board have done good, conscientious work. I believe that the medical inspectors of schools are entitled to particular credit because they have done a vast amount of valuable work for nominal pay. By their attention to duty and by

care and watchfulness on their part the number of cases of communicable diseases has been considerably reduced, as shown in this report under the heads of "Scarlet Fever," "Diphtheria," and "The Medical Inspection of Schools."

The Board.

In closing my annual report I desire to again express to your honorable board my appreciation of the consideration and support that you have given me at all times. I am satisfied that without this hearty and consistent co-operation it would not have been possible to have obtained such satisfactory results in my work.

Respectfully submitted,

GUY L. KIEFER,

Health Officer.

REPORT OF THE SECRETARY.

July 1, 1905.

The Honorable the Board of Health:

GENTLEMEN—The following is respectfully submitted as the report of the Secretary for the fiscal year ending June 30, 1905:

Receipts and Expenditures.

	Fund	Expended.	Balance.	Overdraft Expended
Antitoxin	\$1,200 00	\$ 1,488 91	.....	\$ 288 91
Advertising	75 00	51 25	23 75	.....
Care of Poor Patients...	3,000 00	4,289 02	.....	1,289 02
Disinfectants	900 00	431 35	468 65	.....
Fuel	1,000 00	853 01	146 99	.....
Groceries	3,500 00	2,246 93	1,253 07	.....
General Expense	400 00	396 07	3 93	.....
Hospital Repairs	1,000 00	1,058 93	.....	58 93
Hospital Supplies	150 00	85 86	64 14	.....
Transportation of Small- pox Patients	125 00	87 00	38 00	.....
Laboratory Supplies	300 00	294 82	5 18	.....
Messenger Service	400 00	306 55	93 45	.....
Postage	125 00	125 00	.....	.....
Printing and Stationery ..	700 00	659 95	40 05	.....
Transportation of Inspec- tors	900 00	900 00	.....	.....
Vaccine Matter	200 00	163 00	37 00	.....
Labor, Smallpox hospital	900 00	866 14	33 86	.....
Labor, quarantine goods.	1,200 00	255 50	944 50	.....
Medical Inspectors of Schools	2,500 00	2,500 00	.....	.....
Fixed salaries	22,908 00	22,908 00	.....	.....
	<hr/> \$41,483 00	<hr/> \$39,967 29	<hr/> \$3,152 57	<hr/> \$1,636 86

The above statement shows a balance of \$1,515.71 in the Board of Health fund at the close of the fiscal year. To this should be

added \$60.98 certified from the previous year's balances to the Grocery fund, and \$144 derived from the sale of old building, boilers, fence, etc., at the hospital, and paid into the office of the City Treasurer prior to June 30, 1905, making a total balance in the fund for the fiscal year ending on above date of \$1,720.69.

The overdraft in the Antitoxin fund was provided for by a resolution of the Common Council dated June 27, authorizing the Controller to transfer from the Quarantine Guard fund to that fund \$208.91, and again by a resolution dated July 18 authorizing the Controller to transfer from the Grocery fund to that fund \$80.00.

The overdraft in the Care of Poor Patients' fund was provided for by a resolution of the Common Council dated June 27, authorizing the Controller to transfer from the Quarantine Guard fund to that fund \$617.02, and again by a resolution dated July 18 authorizing the Controller to transfer from the Grocery fund to that fund \$672.00.

The overdraft of \$58.93 in the Hospital Repairs fund was provided for by the payment into the office of the City Treasurer prior to June 30, 1905, money received from the sale of old buildings, boilers, fence, etc., on the hospital grounds, pursuant to permission of the Common Council, and credited to that fund, as above stated.

That other funds were sufficient for the year's demands is accounted for by the fact that the persistent efforts of your honorable body from year to year to secure from the Common Council and Board of Estimates reasonable increases of these funds have been successful, and that but few cases of smallpox occurred during the year, resulting in the saving of large sums of money for hospital expenses and quarantine guards.

Smallpox Hospital.

During last spring and early summer the grounds and surroundings of the smallpox hospital were much improved. Pursuant to authority of your honorable body and the resolution of the

Common Council adopted on May 9 last certain old buildings, boilers and board fences at the hospital were sold for a total of \$159.00.

During May contracts were entered into for the grading of the grounds surrounding the hospital, the erecting of a substantial wire fence to enclose them, and the installation of lawn water supply pipes, and the work promptly and satisfactorily completed, after which the grounds were sown with lawn grass seed, at a total outlay of \$973.15. The hospital and surroundings now present a neat and quite attractive appearance.

Board of Examiners of Plumbers.

By an act of the State Legislature the Board of Health is required to appoint a Board of Examiners of Plumbers, whose duty it is to hold meetings for the purpose of examining persons who may apply for licenses, to engage in the business or trade of master or journeyman plumbers in Detroit. The Board of Examiners so appointed holds meetings regularly every Monday evening at 8 o'clock at the Board of Health building, for the purpose above mentioned.

The following is a brief statement of the work done during the year by that board, and of the fees collected:

From renewals of licenses	\$ 800 00
From examinations failed to pass	22 00
From registrations	184 00
Total	\$1,003 00

Which amount was paid into the city treasury and credited to the Public Health fund, and used to defray the expenses of this Board.

The careful examination of those seeking licenses to engage in the business or trade of plumbing is causing much better and more accurate work to be done by plumbers, the public health being by this means largely protected against the unhealthful results of installing defective plumbing and drainage work.

Respectfully submitted,

JOHN F. MCKINLAY,

Secretary.

REPORT OF THE REGISTRAR OF VITAL STATISTICS.

Guy L. Kiefer, M. D., Health Officer:

DEAR SIR—I respectfully submit the following as the report for the contagious disease and vital statistics departments for the year ending June 30th, 1905:

Summary of Mortality.

[illegible]

SUMMARY OF MORTALITY—Continued.

NATIVITIES.

PLACE OF BIRTH	July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June	Total
Detroit	225	234	166	158	144	173	197	194	238	181	183	169	
Michigan	59	44	54	40	36	64	58	51	62	57	67	49	
Other States..	48	48	38	50	42	59	44	60	64	48	38	35	
Austria.....	....	1	2	3	2	2	....	...	3	1	2	5	
Australia.....	..	....	....	1	....	....	...	....	....	....	....	....
Bohemia .....	....	1	2	2	2	..	2	2	..	....	2	8	
Belgium.....	1	...	2	1	1	....	1	....	....	2	3	....
Bavaria.....	....	....	1	....	....	....	....	....	....	....	....	....
Canada..	33	24	31	22	43	25	39	32	45	54	39	20	
Denmark.....	1	....	....	....	....	....	....	....	1	1	....	...
England	7	7	11	16	8	13	8	9	14	11	5	9	
France.....	1	....	....	1	3	3	3	3	....	1	2	7	
Germany	55	47	63	52	43	77	61	58	40	68	62	42	
Greece .....	....	....	....	....	....	....	....	....	....	....	...	.
Holland.....	3	1	....	1	....	....	1	...	1	1	1	....
Hungary.....	....	1	1	....	....	....	1	1	1	1	3	....
Ireland.....	15	14	19	21	17	18	26	16	17	17	15	12	
Italy.....	1	1	2	1	....	2	1	2	2	2	5	5	
Poland.....	2	3	4	3	2	6	1	3	1	7	5	6	
Prussia.....	...	....	....	1	1	1	1	....	....	1	1	2	
Russia... ..	2	3	2	2	1	2	3	5	1	3	2	...	
Scotland	6	4	3	5	6	4	5	7	4	3	8	7	
Spain.....	....	1	....	....	....	....	....	....	....	....	....	..
Sweden.....	...	2	....	1	....	....	....	....	2	....	1	1	
Switzerland...	2	1	1	1	1	1	1	....	2	1	1	2	
Not Stated....	8	11	3	5	7	7	2	5	7	5	6	12	
Total.....	469	448	405	387	359	457	455	448	505	465	451	391	5,240

[illegible]

SUMMARY OF MORTALITY—Continued.

CAUSES OF DEATH

I. GENERAL DISEASES—Continued.

	July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June	Total
30 Pott's Disease .....	..	..	..	..	..	..	..	..	..	..	..	..	..
31 Abscess, Cold and by Congestion .....	..	..	..	..	1	..	..	..	..	..	..	..	1
32 White Tumors (White Swellings) .....	..	..	..	..	..	..	..	..	..	..	..	..	..
33 Tubercle of other Organs .....	..	..	..	..	..	..	..	..	..	..	..	..	..
34 Generalized Tubercle.	1	1	..	..	1	..	..	2	2	..	3	1	11
35 Scrofula.....	..	..	..	..	..	..	..	..	..	..	..	..	..
36 Syphilis.....	4	..	1	4	..	1	3	3	6	7	7	3	39
37 Bleorrhagia of the Adult .....	..	..	..	..	..	..	..	..	..	..	..	..	..
38 Gonococic Infections of Children .....	..	..	..	..	..	..	..	..	..	..	..	..	..
39 Cancer and Other Malignant Tumors of the Buccal Cavity.....	..	..	..	..	..	..	..	..	..	..	..	..	..
40 Cancer and Other Malignant Tumors of the Stomach and Liver	7	10	11	8	4	6	6	4	14	9	3	9	91
41 Cancer and Other Malignant Tumors of the Peritoneum, Intestines and Rectum	4	4	3	1	2	1	2	3	1	4	4	2	31
42 Cancer and Other Malignant Tumors of the Female Genitals	3	3	..	2	4	2	4	4	2	3	1	2	30
43 Cancer and Other Malignant Tumors of the Breast.....	1	..	..	5	..	..	4	2	1	..	2	1	16

SUMMARY OF MORTALITY—Continued.

CAUSES OF DEATH	Total											
	July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June
I. GENERAL DISEASES—Continued.												
44 Cancer and Other Malignant Tumors of the Skin ...	..	..	3	5	..	1	..	..	1	..	..	..
45 Cancer and Other Malignant Tumors of Other Organs and Organs not Specified.....	1	3	2	1	4	2	..	1	2	1	5	..
46 Other Tumors (Tumors of the Female Genitals excepted).....	..	..	1	1	..	1	..	..	1	..	..	..
47 Rheumatism, Acute, Articular.....	1	..	3	..	1	..	..	2	4	2	3	1
48 Rheumatism, Chronic, and Gout.....	..	..	..	..	..	..	..	..	..	..	..	..
49 Scorbutus.....	..	..	..	..	..	..	..	..	..	..	..	..
50 Diabetes.....	4	3	1	1	1	7	4	5	3	6	1	..
51 Goitre, Exophthalmic.....	..	..	..	..	..	..	..	..	..	..	..	..
52 Addison's Disease ..	1	2	..	1	..	..	..	..	..	..	1	1
53 Leukaemia ..	..	..	..	..	..	..	..	..	..	..	..	..
54 Anaemia, Chlorosis.....	5	..	..	..	1	1	1	..	3	3	2	..
55 Other General Diseases.....	..	..	..	..	..	..	..	..	..	..	..	..
56 Alcoholism, Acute and Chronic.....	2	3	1	2	4	2	2	3	1	1	2	..
57 Saturnism ..	..	..	..	..	..	..	..	..	..	..	..	..
58 Other Professional Intoxications ..	..	..	..	..	1	..	..	1	..	3	..	..

SUMMARY OF MORTALITY—Continued.

CAUSES OF DEATH	July, 1904												Total
	August	September	October	November	December	January, 1905	February	March	April	May	June		
I. GENERAL DISEASES—Continued.													
59 Other Chronic Poisonings	1	..	..	..	..	..	..	..	..	..	..	1
II. Diseases of the Nervous System and the Organs of Special Sense.													
60 Encephalitis .....	..	..	..	..	2	..	..	2	..	..	..	4
61 Meningitis, Simple	7	7	2	1	7	2	2	10	7	9	5	72	
61a Meningitis, Cerebro-spinal.....	6	3	3	2	1	4	2	4	6	4	9	49	
62 Locomotor Ataxia, Progressive.....	..	..	1	..	..	1	1	2	..	..	..	6
63 Other Diseases of the Spinal Cord .....	..	..	..	..	..	..	..	..	..	..	..	..
64 Cerebral Congestion and Hemorrhage.....	1	2	1	1	..	3	..	2	1	..	..	11
65 Cerebral Softening .....	..	1	..	..	..	..	..	..	1	2	..	4
66 Paralysis Without Specified Cause.....	..	..	..	..	..	..	..	..	..	..	..	..
67 Paralysis, General.....	6	9	10	1	9	11	7	10	10	10	5	91	
68 Other Forms of Mental Alienation.....	1	1	4	1	1	2	1	..	..	3	1	16
69 Epilepsy	1	..	..	..	1	..	3	1	..	..	1	7
70 Eclampsia (non-puerperal).....	..	..	..	..	..	..	..	..	..	..	..	..
71 Convulsions of Children	18	18	10	16	17	14	19	12	11	21	16	184	
72 Tetanus	1	..	..	..	1	..	..	..	..	..	..	2

SUMMARY OF MORTALITY—Continued.

CAUSES OF DEATH		July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June	Total
II. DISEASES OF THE NERVOUS SYSTEM AND THE ORGANS OF SPECIAL SENSE—Continued.														
73	Chorea .....	..	..	..	..	..	..	..	..	..	..	..	..	..
74	Other Diseases of the Nervous System .....	..	..	..	..	..	..	..	..	..	..	..	..	..
75	Diseases of the Eye and its Adnexa .....	..	..	..	..	..	..	..	..	..	..	..	..	..
76	Diseases of the Ear .....	..	..	..	..	..	..	..	..	..	..	..	..	..
III. Diseases of the Circulatory Apparatus.														
77	Pericarditis	2	..	..	1	3	..	2	..	2	1	..	1	12
78	Endocarditis, Acute	4	3	3	2	2	..	2	2	7	1	4	1	31
79	Organic Disease of the Heart	12	18	17	33	23	29	30	25	29	31	28	27	302
80	Angina Pectoris	3	4	2	..	4	2	1	2	1	1	..	1	21
81	Affections of the Arteries (Atheroma, Aneurism, etc.) ..	..	1	2	2	3	1	2	..	..	2	2	3	18
82	Embolus and Thrombosis .....	..	..	..	..	..	..	..	..	..	..	..	..	..
83	Affections of the Veins (Varices, Hemorrhoids, Phlebitis) .....	..	..	..	1	2	2	1	1	..	3	2	..	12
84	Affections of the Lymphatic System (Lymphangitis, etc.) ..	..	..	1	..	..	1	..	..	..	2	2	1	7
85	Hemorrhages	6	6	13	7	8	16	17	10	12	13	11	6	125
86	Other Affections of the Circulatory System	8	4	1	..	..	1	..	..	..	..	..	1	15

SUMMARY OF MORTALITY—Continued.

REPORT OF THE BOARD OF HEALTH

41

CAUSES OF DEATH

IV. Diseases of the Respiratory System.

	July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June	Total
87 Diseases of the Nasal Fosseæ.....	..	..	..	..	..	..	..	..	..	..	..	..	..
88 Affections of the Larynx.....	1	..	..	..	2	..	..	..	1	..	..	..	4
89 Affections of the Thyroid Body.....	..	..	..	..	..	..	..	..	..	..	..	..	..
90 Bronchitis, Acute.....	3	1	2	8	4	8	7	6	13	5	5	3	63
91 Bronchitis, Chronic.....	6	2	4	1	10	13	12	11	9	5	3	4	80
92 Broncho Pneumonia.....	3	2	3	2	5	8	15	20	7	13	1	1	80
93 Pneumonia.....	11	9	19	19	32	30	47	53	47	30	27	26	350
94 Pleurisy.....	1	..	1	..	..	..	1	..	..	..	..	..	3
95 Pulmonary Congestion and Apoplexy.....	4	10	9	9	14	18	8	7	5	8	8	6	106
96 Gangrene of the Lung.....	..	..	..	..	..	..	..	..	..	..	..	..	..
97 Asthma.....	..	1	2	3	3	3	..	5	10	1	1	2	31
98 Pulmonary Emphysema.....	..	..	..	..	..	..	..	..	..	..	..	..	..
99 Other Diseases of the Respiratory Apparatus (Tuberculosis excepted).....	..	..	..	..	..	..	..	..	..	..	..	..	..

V. Diseases of the Digestive Apparatus.

100 Affections of the Mouth and its Adnexa.....	..	1	..	1	..	1	2	5
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SUMMARY OF MORTALITY—Continued.

CAUSES OF DEATH		July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June	Total
V. DISEASES OF THE DIGESTIVE APPARATUS —Continued.														
115	Other Affections of the Spleen.....	..	..	..	..	..	..	..	..	..	..	..	..	..
116	Peritonitis, simple (Puerperal excepted).....	7	6	5	11	3	6	7	5	13	18	9	3	93
117	Other Affections of the Digestive Apparatus (Cancer and Tubercle excepted).....	..	..	3	1	..	..	1	..	1	..	..	..	6
118	Appendicitis and Abscess of the Ilac Fossae.....	4	5	4	3	1	1	4	2	4	3	1	6	38
VI. Diseases of the Genito-Urinary Apparatus and its Accessa.														
119	Nephritis, Acute.....	13	12	16	11	13	28	18	21	19	20	16	19	206
120	Bright's Disease.....	11	2	3	2	4	4	8	6	11	8	5	13	77
121	Other Diseases of the Kidneys and their Accessa.....	..	..	..	..	..	..	..	..	..	..	..	..	..
122	Calculi of the Urinary Tract.....	..	..	..	..	..	1	..	..	..	..	..	..	1
123	Diseases of the Bladder.....	1	1	1	..	2	1	1	1	1	2	2	..	13
124	Diseases of the Urethra, Urinary Abscess, etc.....	..	..	..	..	..	..	..	..	..	..	..	..	..
125	Diseases of the Prostate.....	..	..	..	..	..	..	1	..	..	..	1	..	2
126	Non-venereal Diseases of the Male Genital Organs.....	..	..	..	..	..	..	..	..	..	..	..	..	..
127	Metritis.....	1	1	..	1	..	1	..	..	1	..	..	..	5

SUMMARY OF MORTALITY—Continued.

CAUSES OF DEATH													
	July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June	Total
VIII. Diseases of the Skin and Cellular Tissue.													
142	Gangrene	2	2	3	..	..	1	4	..	..	2	2	16
143	Furuncle (Carbuncle).....	1	..	..	..	..	..	..	..	..	..	..	1
144	Abscess Warm	1	2	..	1	2	3	2	5	2	4	3	30
145d	Other Diseases of the Skin and its Adnexa.....	..	1	1	1	..	..	..	..	..	1	..	4
IX. Diseases of the Organs of Locomotion.													
146	Affections of the Bones (non-tuberculous).....	1	2	2	..	2	1	..	2	1	1	3	16
147	Arthritis and Other Affections of the Joints (Tubercle and Rheumatism excepted).....	..	..	..	..	..	..	..	..	..	..	..	..
148	Amputation .....	..	..	..	..	..	..	..	..	..	..	..	..
149	Other Affections of the Organs of Locomotion.....	..	..	..	..	..	..	..	..	..	..	..	..
X. Still Born.													
150	Stillbirths.....	18	37	30	32	14	37	34	33	32	38	26	368
XI. Early Infancy.													
151	Premature Birth.....	20	13	14	13	13	24	22	29	33	17	19	233
152	Other Diseases of Early Infancy.....	..	2	3	1	1	2	3	2	1	3	1	22
153	Marasmus,	30	43	22	21	9	12	16	18	19	17	20	246

SUMMARY OF MORTALITY—Continued.

[illegible]

SUMMARY OF MORTALITY—Continued.

CAUSES OF DEATH		July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June	Total
XIII. AFFECTIONS CAUSED BY EXTERNAL CAUSES—Continued.														
169	Insolation.....	3	2	..	..	..	..	..	..	..	..	..	..	5
170	Freezing.....	..	..	..	..	..	..	..	..	..	..	..	..	..
171	Electrical Disturbances.....	..	..	1	..	..	..	..	..	..	..	..	..	1
172	Accidental Submersion.....	11	2	1	1	2	..	..	2	2	..	3	4	28
173a	Inanition.....	7	12	5	9	6	6	8	..	6	5	3	8	75
174	Absorption of Deleterious Gases, (suicide excepted).....	..	..	..	..	..	..	..	..	..	..	..	..	..
175	Other Acute Poisonings.....	..	..	..	..	..	..	..	..	2	2	..	2	6
176	Other External Violence.....	..	..	..	..	..	..	..	..	..	..	..	..	..
XIV. Ill-defined Diseases.														
177	Dropsy.....	..	1	3	2	1	1	3	1	1	3	3	4	23
178	Sudden Death.....	..	..	..	..	..	..	..	..	..	..	..	..	..
179	Unspecified or Ill-defined Causes of Death.....	1	2	..	..	2	5	6	2	5	5	3	3	34
Total.....		475	467	403	377	348	452	453	439	504	468	453	401	5,240

SUMMARY OF MORTALITY—*Continued.*

Table showing computation for the death rate of the city.

MONTHS.	Total	Still Born	Died Outside of City	Net
July, 1904.....	475	18	9	448
August	467	37	8	422
September.....	403	30	7	366
October	377	32	12	333
November.....	348	14	8	326
December.....	452	37	20	395
January, 1905.....	453	34	9	410
February	439	33	17	389
March.....	504	37	14	453
April.....	468	32	13	423
May.....	453	38	9	406
June.....	401	26	16	359
Total.....	5,240	368	142	4,730
Still born and died outside.....	510	....	...	510
Total deaths in city.....	4,730	....		5,240

Death rate per 1,000 per annum 13.51, on a basis of an estimated population of 350,000 inhabitants.

Death rate per 1,000 per annum 14.92, on a basis of a population of 317,000 inhabitants, as shown by the State census of 1904.

Contagious Diseases.

Table showing deaths by months from contagious diseases.

DISEASE	July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June	Total
Diphtheria.....	1	5	4	3	13	13	11	5	9	8	11	2	85
Scarlet Fever.....	1	..	1	..	..	2	..	..	1	7	4	6	22
Small Pox.....	..	..	..	..	..	..	..	..	..	..	1	..	1
Yellow Fever.....	..	..	..	..	..	..	..	..	..	..	..	..	..

Table showing present condition of contagious diseases.

DISEASE	Total number of cases June 30th, 1904	DURING THE YEAR			Total number of cases June 30th, 1905	Number of Houses Quarantined June 30th, 1905
		New cases reported	Recoveries reported	Deaths		
Diphtheria.....	10	893	810	83	7	5
Scarlet Fever.....	12	384	362	22	11	11
Small Pox.....	5	40	39	1	..	..
Yellow Fever.....	..	..	..	..	..	..

Contagious Diseases.

Table showing cases reported by months in comparison with preceding years.

MONTH	DIPHTHERIA				SCARLET FEVER			
	1902	1903	1904	1905	1902	1903	1904	1905
July	2	24	48	49	34	21	17	10
August	4	46	62	69	36	62	10	13
September	16	59	86	48	84	56	26	33
October	23	83	76	65	71	95	43	28
November	27	193	224	96	92	126	38	55
December	24	138	252	104	89	45	87	44
January, 1905	37	110	211	78	110	54	106	28
February	31	68	119	62	74	36	78	19
March	33	64	84	89	123	24	59	45
April	29	51	95	82	124	29	49	41
May	32	66	75	95	89	31	39	39
June	23	74	101	55	50	19	23	29
Total	281	976	1,433	893	976	598	575	384

Medical Inspection of Schools.

Following is the total result of such inspection:

Number of pupils examined	25,247
Number of pupils excluded.....	1,693

CAUSES OF EXCLUSION.

Scarlet fever	17
Diphtheria	21
Tonsillitis	581
Measles	4
Roetheln	1
Mumps	30
Smallpox	0
Chicken-pox	101
Whooping-cough	4
Pediculosis	376
Ring Worm	61
Impetigo	276
Scabies	84
Other Diseases	167
<hr/>	
Total	1,693

Births Reported.

For the year ending June 30th, 1905.

MONTH	Male	Female	Total
July, 1904.....	121	126	247
August.....	90	81	171
September.....	98	82	180
October	116	82	198
November.....	100	86	186
December.....	101	86	187
January, 1905	123	110	233
February.	91	97	188
March.....	109	90	199
April.....	148	125	273
May.....	118	91	209
June	128	120	248
Total	1,343	1,176	2,519

Report of Funeral Inspector.

MONTH	FUNERALS ATTENDED		DISINFECTIONS						
	Diphtheria	Scarlet Fever	Houses for Consumption	Houses for Pneumonia	Houses for Meningitis	Houses for Typhoid Fever	Parcels of Clothing	Persons	School Rooms
July, 1904.....	2	..	31	44	9	1	21	12	..
August	2	..	34	39	7	3	29	21	9
September	4	1	29	31	11	4	30	24	11
October	5	..	36	38	6	3	31	22	7
November.....	11	..	33	30	10	2	23	49	65
December.....	12	..	38	45	8	1	31	43	23
January, 1905.....	8	..	30	42	13	2	26	38	27
February	5	..	37	39	7	3	19	27	23
March.....	2	1	34	49	12	4	20	39	16
April... ..	4	7	33	47	17	4	20	25	11
May.	5	2	41	42	14	3	25	37	21
June	4	2	36	41	12	4	23	24	9
Total.....	64	13	412	487	126	34	298	361	227

It is the duty of the Funeral Inspector to copy all death certificates and forward them to the Secretary of State.

Funeral Inspector R. P. Vandy during the year ending June 30th, 1905, has copied 5,240 certificates of death and transmitted same to the Secretary of State at Lansing, Michigan.

Respectfully submitted,

H. T. KENSHAW,

Registrar.

Detroit, June 30, 1905.

REPORT OF MEDICAL INSPECTOR.

Guy L. Kiefer, M. D., Health Officer:

DEAR SIR—I respectfully submit the following report for the year ending June 30th, 1905:

It is again my pleasure to report a decrease in the number of disinfections over the number performed during the year previous. The reduction in the number of cases of diphtheria located on the east side of the city is particularly striking. Last year I disinfected more than one thousand houses in which this disease had been, whereas during the present year the total number disinfected was only five hundred and seventy-five.

Scarlet fever, too, was somewhat less prevalent, although the difference was not so marked.

Smallpox seems to have been kept under control, and it is my opinion that the rigid general vaccination, which was performed two years ago under your direction, has kept the number of cases down to a minimum. During the entire year only nineteen disinfections were done for smallpox on the east side.

This year's results in the reduction of contagious disease speak volumes for the system of daily medical inspection of schools, which was introduced by yourself in Detroit. This system was improved during the year, an appropriation having been granted for the purpose. As a consequence more schools have been inspected than ever before, and the inspections have been more regular and systematic. The results, as I have said, speak for themselves.

Now that the appropriation for a hospital for contagious diseases has been allowed, I believe I am safe in saying that after such hospital has been built and is in operation, the contagious

diseases—diphtheria and scarlet fever—will be still further restricted.

During the year I made a number of miscellaneous calls of which I kept no accurate record. Some of these were for the purpose of verifying diagnoses of school inspectors and some were made for disinfecting houses in which cases of typhoid fever and tuberculosis had been.

I herewith append tabulated statement of the disinfections performed during the year:

Smallpox	19
Scarlet Fever	210
Diphtheria	575

Respectfully submitted,
PHILIP J. LORANGER,
Medical Inspector and Disinfecter.

REPORT OF MEDICAL INSPECTOR.

July 1st, 1905.

Guy L. Kiefer, M. D., Health Officer:

DEAR SIR—The following report for the fiscal year ending June 30th, 1905, is most respectfully submitted:

Last year it was my privilege to call your attention to the rapidly diminishing contagion of scarlet fever and diphtheria in my district, owing to the stringent regulations adopted by you, together with the medical inspection of schools, and the campaign of education. I again have the pleasure of renewing my congratulations. You now have the hearty co-operation of the public throughout the district assigned to me in maintaining and enforcing quarantine, and other hygienic rules of the department that tend not only to lessen contagious diseases, but entirely eradicate them. That this pleasing prospect is in view may be illustrated by a comparison of the number of infected houses during the fiscal year ending June 30th, 1904, and last fiscal year ending June 30th, 1905:

1904, disinfected 802 houses.

1905, disinfected 410 houses.

In 1904, 355 of these were scarlet fever, while in 1905, 177 of these were scarlet fever.

In 1904, 437 of these were diphtheria, while in 1905, 223 of these were diphtheria.

In 1904 we had 46 miscellaneous calls, while in 1905 we had 75 miscellaneous calls.

This increase was due to public activities in guarding the health of the community. This analysis I consider sufficient to justify the position that I have taken with regard to an enlightened public opinion and its appreciation of an intelligent, energetic official that does things. The results show for themselves and should be highly gratifying to your honorable board.

Smallpox.

The district consisting of that part of the city west of Woodward avenue has been free from smallpox during the year, there being no cases originating in the same; but ten houses were disinfected by me and all the cases came from outside the city.

Scarlet Fever.

It has been my custom to report to you the number of houses disinfected by me, rather than the number of individual cases inspected in a given household, when called upon to remove the quarantine; consequently the number of scarlet fever houses disinfected during the year (177) conveys no definite impression of the individual cases contained therein, while it is known to you that figures give no adequate idea of the services rendered in the pursuance of this duty. A careful examination of all members of the family, their throats, fingers, etc., has been strictly adhered to, the twenty-one day rule religiously enforced, and formaldehyde generously used as per your direction, with the pleasing result already shown in my table of comparison; a steady decrease in centers of infection for scarlet fever and diphtheria.

Diphtheria.

What is true of scarlet fever applies with equal force to diphtheria, slowly but surely your impress is being felt in the campaign inaugurated against this disease, and it, too, is fast disappearing. There are still a few whose antipathy to antitoxin outweigh the indisputable evidences of good that daily manifest itself in curing diphtheria and ignore it in their practice; this number, however, is much smaller than last year, and I am hoping that the close of another year will find it nil.

I would most respectfully recommend that you again urge upon the profession the necessity of immunization in diphtheria. I am quite sure from observation that were it more generally practiced the disease would be largely mitigated, and life made less burdensome for many families. Notwithstanding the difficulties under which you labor, the result is most gratifying. A decrease of

nearly 50 per cent. in diphtheria on the west side is indicative of what might be accomplished were conditions ideal, *i. e.*, use of antitoxin in all cases, isolation by removal of all cases to our own hospital, disinfection and immunization of all exposed children. That this will come is evidenced by the progress of the past four years.

Miscellaneous.

There were 75 calls during the year for purposes other than disinfections; these were mostly of minor importance, hence classified as above. The attention given by you to typhoid fever and tuberculosis during the year necessitated the distribution of literature. I have made calls for that purpose of which I kept no record. I made 22 calls to investigate cases of suspicion reported by unknown persons and the police department. I desire to especially call your attention to the fact that there was no foundation for the reports and all these calls were unnecessary, there not even being sick persons at the addresses given. That the reports to this department coming from policemen have been indefinite, and invariably the wrong house number given. I would recommend that this matter be brought to the attention of the Commissioner of Police to the end that reports made to this department be based upon probability and assume definite form, *viz.*, name of family, number of residence, name of street and reasons for suspicion, together with name of patrolman making said report. Not that your inspector desires to obviate calls, but in order that he might have some reasonable grounds for disturbing the quietude of a family. inspections, disinfections and miscellaneous work as follows:

Inspection of suspicious cases, 75, diagnosed as follows:

Smallpox	10
Chicken-pox	8
Scarlet fever	7
Diphtheria	8
Miscellaneous { Impetigo, Urticaria, Eczema. }	15
Cases not ready on call	5
Negative calls	22

Disinfections.

Scarlet Fever	177 houses.
Diphtheria	223 houses.
Smallpox	10 houses.
Total number of disinfections	410
Total number of calls for all purposes	485

Respectfully submitted,

JAMES W. AMES, M. D.,

Medical Inspector.

REPORT OF QUARANTINE INSPECTOR.

DETROIT, July 1st, 1905.

Guy L. Kiefer, M. D., Health Officer:

DEAR SIR—I hereby submit my report for the fiscal year ending June 30, 1905:

	July, 1904	August	September	October	November	December	January 1905	February	March	April	May	June	Total
Number of Visits.....	288	329	412	505	590	543	402	306	378	353	348	373	4827
Number of Grocery Orders.....	16	7	26	38	33	51	42	43	5	41	35	43	380
Number of Fuel Orders.....	0	0	0	7	9	14	14	23	2	10	2	3	84

The Board of Health, the Health Officer and assistants deserve much credit, and the praise of the people of Detroit for their effective work in keeping down contagious diseases during the past year. According to population Detroit leads all cities in the United States in this respect. It was a masterly move upon the part of our Board and Health Officer when they insisted upon the daily examination of the children of the public schools by skilled physicians. As a result of these examinations your quarantine inspector believes that sickness and misery in many families and perhaps deaths have been prevented. This also means a large saving in the maintenance account of the board. When the contagious disease hospital as planned by our Board of Health Officer is completed greater benefits in this respect will be in store for our city. In last year's report mention was made of several cases where persons were complained against in

court for breaking quarantine. The effect of these prosecutions and the consequent fines imposed has been good, as during the past year but one case has been taken into court.

Respectfully submitted,

B. F. SCHELLBERG,

Quarantine Inspector.

REPORT OF QUARANTINE INSPECTOR.

DETROIT, MICH., July 1, 1905.

Guy L. Kiefer, M. D., Health Officer:

DEAR SIR—I herewith submit my report for the fiscal year ending June 30th, 1905, as follows:

	July, 1904	August	September	October	November	December	January, 1905	February	March	April	May	June	Total
Number of Visits.....	249	182	160	307	441	613	490	295	394	473	476	380	4460
Number of Grocery Orders.....	31	6	15	19	28	47	56	27	52	52	51	42	426
Number of Fuel Orders	1	....	3	3	11	41	23	9	12	10	2	5	90

During the fiscal year just ended we have not had so many contagious disease cases to care for as in many preceding years, which I deem is due largely to the vigilance of the Health Officer and his assistants, they being ever on the alert to discover and stamp out such diseases wherever found.

A comparison of the report for 1904 shows that 5,096 less visits were made, 426 less grocery orders given, and 121 less fuel orders supplied, thus causing a large saving in the grocery and fuel funds.

I will say that much suffering and death among children might have been prevented could they have had proper care and accommodations, which among the poorer families is next to impossible, and the consequence was that in eight instances the entire family became afflicted with the disease, and in one family there were

two, and in another, three deaths in one week. Many of these lives might have been spared if the contemplated hospital for contagious diseases were in existence, where all necessary accommodations and care could be had. When once this is provided praise and gratitude will come from the people to the Board of Health and Health Officer for their zealous efforts in securing this much needed public institution.

Respectfully submitted,

HERMAN F. BOLDT,

Quarantine Inspector.

REPORT OF GARBAGE INSPECTOR.

July 1, 1905.

Guy L. Kiefer, M. D., Health Officer:

Dear Sir—The following is respectfully submitted as my report for the fiscal year ending June 30, 1905:

The work in my department has increased rapidly since the question of canceling the garbage contract with the Detroit Sanitary Works has been under consideration.

The garbage collecting service is very faulty. The company is certainly not living up to its contract, and does not increase its facilities for collecting garbage in accordance with the rapidly increasing quantity caused by the steady increase in the size and population of the city and therefore does not properly perform its duty which you will notice by the following statement.

The central part of the city, within the half mile circle, which contains the fruit dealers, hotels and restaurants, is well taken care of. We receive very few complaints from that district. Outside of that district and within the two mile circle the collection does not average more than once per week. There are certain districts on the outskirts where garbage is never collected. There are certain classes of people who never complain. They have no respect for law and order and are satisfied to live in dirt and filth and are only reached by complaints from their neighbors.

They are foreigners who live in colonies by themselves. These people make a living principally by selling fruit, collecting old junk, bottles, etc. The nature of their business is such that filthy conditions of their premises and adjacent streets and alleys are frequently found to exist.

I devote a considerable part of my time among these people teaching them the use of soap and water and the art of cleanliness. The Sanitary Company in my opinion is not to blame for this condition of things. The company could accomplish a great deal more and better work if the people themselves would obey the law.

The law prescribes that the people shall provide themselves with water-tight covered receptacles, to be put in the most convenient place possible for the collector. Many people adopt any available method of keeping their garbage, such as old baskets, discarded pans, boxes of all sizes and descriptions. These receptacles are unlawful as they are unsanitary, and do not comply with the garbage ordinance. A great deal of trouble arises when the people keep their garbage receptacles in their yards with their rear gates locked. In other cases the householders have the rear of their premises rented to other persons, depriving the people living in front of the free use of the alley, therefore compelling the collector to go around to the front entrance to collect the garbage. These people generally complain of the negligence of the company and they will not obey my instructions as to requirements of the ordinance.

The company is not obliged according to their contract to collect garbage mixed with rubbish or ashes, etc. I have a great deal of trouble in this respect, and it is of frequent occurrence.

The people should be compelled to obey the law, they should have the proper receptacle in its proper place and also have the rear of their premises numbered.

As to the manure nuisance, we hear but very few complaints, and they are made during the summer months. The farmers are busy at their crops which prevents them from gathering manure in the city and people do not know how to dispose of it and this is no doubt the cause of these complaints, and therefore it seems to me a public dumping ground or other means of collection and disposal is necessary.

The collection of garbage from lots, terraces and tenement houses is now difficult. The complaints in these cases are usually caused from the fact that the tenants each have their individual pails and are often very careless about keeping them clean and in proper repair. This system causes great annoyance to both the people and the garbage collector, for it is a very slow and unsanitary method. The above nuisance could be easily prevented by enacting an ordinance compelling landlords of such places to furnish a sanitary covered box lined with iron, sufficiently large for all the tenants and placed in the proper place—the alley. This would insure a quick and sanitary collection.

	Complaints Investigated	Places Investigated	No Fault of Company	Fault of Company	Specials
1904					
July	227	323	72	165	86
August	299	331	87	212	32
September	413	428	103	310	15
October,	146	154	40	106	8
November,	135	145	32	103	10
December,	228	295	58	230	7
1905					
January	276	280	73	203	10
February	211	215	71	140	4
March,	215	233	63	152	18
April	175	188	56	119	13
May,	249	273	103	146	24
June,	495	508	191	304	13
Total,	3069	3373	949	2190	240

Respectfully submitted,
 JOHN B. PETERS,
 Garbage Inspector.

REPORT OF SMOKE INSPECTOR.

Detroit, July 1st, 1905.

Guy L. Kiefer, M. D., Health Officer:

Dear Sir:—I respectfully submit the following report for the year ending June 30th, 1905:

Number of observations and interviews, see under "remarks."	
Number of notices sent out	139
Number of letters sent out	80
Number of mechanical stokers installed.....	41
Number of automatic smoke preventing devices installed	23
Number of other devices, steam jets, etc.	33
Number of unsatisfactory, removed, and replaced by others	3
Number of unsatisfactory, removed and not replaced	5
Number of complaints made in Recorders Court	59
Number of convictions	21
Number of sentences suspended	18
Number of fines imposed	3
Amount of fines, \$10, \$25, \$25	\$60.00
Number of cases proven guilty and taken under advisement by Judge	4
Number of cases still unfinished	19
Number of cases withdrawn having abated the smoke	10
Number of cases withdrawn from error in complaint	3
Number of cases held over, party going to new premises.....	1
Estimated cost of mechanical stokers installed	\$28,700.00
Estimated cost of automatic smoke preventing devices installed..	2 300.00
Estimated cost of all other devices	330.00
Total cost	\$31,330.00

Besides, the Board of Education have taken steps this year, to abate the smoke nuisance in the schools as far as the means at their disposal will allow.

In the furnace schools (29), they will burn smokeless coal. In the sixteen steam heated schools they will install a smoke pre-

venting device of some kind and in this way will be able to determine the device most suitable for their plants. Five mechanical stokers will be installed in five of the old schools and in all of the new schools that will be built this year, mechanical stokers will be installed. At the request of the School Board along with Mr. Collemore their representative, we tested out all the different kinds of coal that were offered to them this year, the purpose being to find out the kind that would produce the minimum of smoke and the maximum of heat.

In my report last year I mentioned the difficulty in keeping plants up to the mark after they had once abated the nuisance. I hoped then, that as the smoke preventing devices and mechanical stokers became more general, that firemen would become more and better acquainted with the use of them and that a chimney once cleaned up would remain so. Such is not the case, however, as there are very few of them who do not have to be reminded every once and a while that they have a device which is either out of repair or out of commission, and I frequently find it is both.

There are a few though who do very excellent work and if space would permit I would be pleased to illustrate their work on these pages. The accompanying charts are a fair sample of such plants as I refer to, and show what is being done every day by them.

Nos. 1 and 2 show the D. M. Ferry Co. plant before and after devices were installed.

No. 3 is from the Calvert Lithographing Co. plant and shows proper handling of a mechanical stoker. Every day with them is alike and they used to have a dirty chimney.

No. 4 is from the chimney of the Riverside Power Plant and it is a rare sight to see black smoke coming from their chimney. They have a very simple device.

Chart No. 5 shows Murphy Power Plant with mechanical stokers badly handled, while No. 6 shows what they did after complaint was made against them in Court. The improvement was

CHIMNEY OF D.M. FERRY & CO

CHIMNEY of D. M. FERRY & CO MARCH 31st 1905 1-50 TO 2-50 P.M. WITH SMOKE PREVENTING DEVICE

CHIMNEY OF RIVERSIDE POWER PLANT MAY 20TH 1905 2-30 TO 3-30 P.M. WITH SMOKE PREVENTING DEVICE

CHIMNEY OF MURPHY POWER PLANT OCT 26TH 1904 2-05 TO 3-05 P.M.

CHIMNEY OF MURPHY POWER PLANT JAN 7TH 1905 2-27 TO 3-27 P.M.

No 6		MINUTES																																																													
BLACK																																																														BLACK	0
D.BROWN																																																														D.BROWN	0
L.BROWN																																																														L.BROWN	0
FAINT																																																														FAINT	24
CLEAR																																																														CLEAR	27
																																																															30

made partly by proper handling of stokers and partly by a selection of coal best suited to the stokers.

The steamboats are giving us the usual amount of trouble. We have the D. B. I. & W. Ferry Co., the White Star Line, and the Grand Trunk Ry. Transfer Lansdowne before the court now and have had a number of hearings. They profess to be willing to do anything in their power to get rid of the smoke, but when a proposition is laid before them they balk, which gives me the impression they are not in earnest. Their attorneys have attacked the constitutionality of the smoke ordinance.

The pictures on pages 70, 71, 72 and 73 are from photographs taken of four boats which ply the river, the transfers every day and the others during the summer.

No. 1 is from the transfer steamer Lansdowne at the Grand Trunk slip near the foot of Hastings Street, taken Aug. 5th, 1905.

No. 2 is from the excursion steamer Columbia at her wharf at the foot of Bates Street, taken Aug. 5th, 1905.

No. 3 is the steamer City of Toledo as she is leaving on her afternoon trip to the Flats, taken Aug. 5th, 1905.

No. 4 is the steamer Sappho going to Belle Isle. They are average examples of every day occurrences, taken Aug. 9th, 1904.

Steam jets and air mixing devices were installed in all of the Michigan Central transfer boats and were fairly successful excepting in the Detroit. In it they do not seem to work, neither do they work in the transfer Lansdowne of the G. T. R. Whether it is that the device is not adapted to their boats or due to faulty installation, I am not prepared to say, but am inclined to think it is the latter.

The street railway plants have not improved any and we have them in Court again. Their attorneys also threaten to attack the constitutionality of the smoke ordinance.

I am often asked the question how long do you allow black smoke to issue from a chimney per hour before you consider it a nuisance. My answer has invariably been, that any black smoke



No. 1—TRANSFER STEAMER LANSDOWNE.

Photo E. H. H



No. 2—EXCURSION STEAMER COLUMBIA.

Photo E. H. H.



No. 3—STEAMER CITY OF TOLEDO.

Photo E. H. H.



No. 4—STEAMER SAPPHO.

Photo E. H. H.

from a chimney is a nuisance, because it seems to me that the great importance of a clear atmosphere in its relation to the general health and well being of a community is universally acknowledged. When the efficient means which are now at the disposal of manufacturers by the employment of "producer gas" and proper mechanical agencies become generally known, it does not seem too much to expect that over one minute of black smoke per hour from any chimney will be considered carelessness and an offence liable to prosecution.

Under the head of observations and interviews, I find it has been almost impossible to keep a correct account. In some cities where the smoke inspection work is divided up among a number of inspectors, and observations are their particular duty, the work is of course simple, but here where all the work depends on one man rushing from place to place on foot and on cars trying to attend to daily complaints, serving notices and writing letters, attending court with all its delays and adjournments along with the hundred and one different things, he is expected to do, something has to suffer and the keeping of complete records of observations and interviews suffer most, and about all I can say under this particular head is, that a smoke inspectors duty is to be observing all the time, and that I have endeavored to do, and beg leave to suggest that you make provision for some assistance in this department for the future, so that the work may be more thoroughly attended to.

Respectfully submitted,

JOHN FAIRGRIEVE,
Smoke Inspector.

REPORT OF THE SANITARY ENGINEER.

DETROIT, July 1st, 1905.

Guy L. Kiefer, M. D., Health Officer:

DEAR SIR—I herewith respectfully submit the usual yearly report of the work of the Sanitary Department during the year ending June 30th, 1905:

House Drainage.

We have had little difficulty the past year in enforcing the rules and regulations of the board governing plumbing and drainage work and the inspection thereof as provided by the State Act of 1901.

The city is growing steadily and a comparison of the tables for the past few years showing the details of the work as performed by our plumbing inspectors, will show a steady increase in the number of calls for such oversight.

The value of this control is little understood by the public at large. The unsanitary condition of the drainage system of buildings where there is no such oversight or control reveals the need of proper inspection by competent men with power to enforce sanitary construction. This has been brought to our notice during the past year by the calls for investigation and a report of the drainage of buildings outside of the city, occupied by our residents. In only a very few instances have we found time to comply with the requests, and in each case the work was found unsanitary in construction, full of defective work, with leaking sewers.

The following is a table showing details of the work during year just closed:

Drainage Inspections.

Month	Plumbing of Buildings		Drains	Special	Smoke Tests	Total
	New	Old				
1904						
July.....	327	64	337	110	0	838
August.....	321	49	358	76	2	806
September.....	296	52	332	81	1	762
October.....	263	68	304	74	1	710
November.....	270	54	283	46	3	656
December.....	229	31	170	62	2	494
1905						
January	127	26	83	63	6	305
February.....	96	31	67	71	1	266
March	205	59	271	73	3	611
April.....	327	83	454	155	9	1019
May.....	269	104	354	44	0	771
June.....	322	98	377	58	2	857
Total.....	3052	719	3390	913	21	8095
One year ago						7248
Two years ago						6612
Three years ago.....						4815

From the above it will be seen that the calls for inspection of drainage work have nearly doubled in the past four years.

Nuisance Complaints.

All complaints of nuisances arising from unsanitary conditions are now given to the Sanitary Squad of the Metropolitan Police Department for investigation and enforcement of our city ordinance regarding such conditions, as we have no force of our own to deal with this particular part of our work. Where complaints indicate the nuisance is caused by defective plumbing or drains they are given first to our plumbing inspectors, who report as to cause

and how it can be abated, when definite instructions can be given the sanitary squad as to what should be done in such cases.

To keep a city in any kind of a sanitary condition requires constant oversight and perseverance. The method of one department relying upon the services of another department has objections unfavorable to efficient work.

The following is a tabulation of the work:

Work by the Sanitary Police for the Department.

MONTH	Circulars on Contagious Disease Distributed	Com- plaints Investi- gated	Houses Placarded for		
			Scarlet Fever	Diphtheria	Small Pox
1904					
July.....	129	243	8	35	2
August.....	183	174	10	51	0
September.....	192	128	24	40	0
October.....	207	102	22	47	0
November.....	333	67	40	71	0
December.....	315	27	28	77	0
1905					
January.....	204	36	25	43	2
February.....	168	58	14	42	1
March.....	216	126	18	54	0
April.....	216	136	24	48	0
May.....	243	169	22	59	0
June.....	183	322	15	46	0
Total.....	2589	1588	250	613	5
Last year.....	4959	1844	417	1236	13

From the above it will be seen there has been a decrease of 40 per cent. in scarlet fever cases and 50 per cent. in those of diphtheria during the year just closed.

Garbage Complaint.

Complaints for non-collection of garbage with cause of complaint:

MONTH	Fault of Collection	Fault of House Holder	1st Call for Collection	Not a Garbage Complaint	Wrong Number Given	No Return by Inspector	Total
1904							
July	165	17	6	31	4	14	237
August	212	38	7	25	6	11	299
September.....	310	16	13	16	9	49	413
October.....	106	15	6	9	6	4	146
November.....	103	18	3	2	5	4	135
December.....	230	9	2	4	9	34	288
1905							
January.....	203	13	5	10	10	35	276
February.....	140	8	0	7	0	56	211
March	152	27	8	13	10	5	215
April.....	119	19	14	14	4	5	175
May	146	25	32	22	7	17	249
June.....	304	40	27	66	17	41	495
Total	2190	245	123	219	87	275	3139
Last year.....	.....	.....	.....	.....	.....	.....	2375

From the above tabulation it will be seen that there was an increase of 764 complaints over those of the year previous and that out of 2,864 complaints investigated, 2,190 were due to neglect of the company in not removing the garbage as required. Investigation the past year has shown that the company are not removing it as often as specified in their contract which calls for removal three times a week throughout the entire city, and once daily within the two mile circle. Investigation by our garbage inspectors, shows that the company does not collect the garbage

as agreed in their contract with the city. That it is collected daily only in a small portion of the two mile circle. That out side of the two mile circle there are large sections where it is collected only once a week. Collection of this kind causes a bad nuisance during the heated term.

Quarantine Statistics and Cost to City for Table Supplies.

MONTH	Number of Families Quarantined	Number of Families Supplied	Number of Persons Supplied	Number of Days Quarantined	Cost for Families	Cost for City Hospital
1904						
July.....	43	16	74	10 $\frac{3}{4}$	\$ 91.75	\$ 53.32
August.....	61	8	33	6	26.90	.....
September.....	64	15	64	9 $\frac{1}{2}$	86.86	2.70
October.....	69	19	98	11	111.80	.....
November.....	111	27	154	9 $\frac{1}{4}$	133.03	3.16
December.....	105	38	200	10	193.30	6.17
1905						
January	70	42	215	10 $\frac{1}{2}$	240.87	40.77
February	57	32	155	9	156.22	64.27
March.....	72	35	163	11	212.63	56.45
April.....	72	33	161	11 $\frac{1}{4}$	207.35	58.95
May.....	81	36	186	9	198.02	56.02
June.....	61	33	161	9 $\frac{1}{2}$	191.58	46.26
Total.....	866	334	1664	9 $\frac{3}{4}$	\$1850.31	\$388.07
Last year.....	1666	613	3150	9	3712.26	786.69

Our Water Supply, Its Past Purity and Threatened Pollution.

From an examination of deaths from typhoid fever in Detroit as shown by the mortuary records of the city, some very safe conclusions may be drawn regarding our water supply as a probable carrier of infection in typhoid fever in the past and also as to its future. In making the following exhibit, I have used the popula-

tion of the city as given in the U. S. census, rather than that given by our city directory, for by this method it can not be said an effort has been made to make any unfair showing for the city, as it gives a higher death rate per 100,000 of inhabitants than would have been obtained under that given by our directory. The exhibit is made from the year 1887 to 1903 as the records of deaths from typhoid fever prior to 1887 are not as reliable as those of later years. The population of intervening years between the census of 1890 and 1900 are estimated:

Year	Population	Number of deaths from Typhoid Fever	Rate per 100,000
1887	177,500	82	46.2
1888	285,000	60	32.4
1889	196,000	48	24.5
1890	205,876 U. S.	27	13.1
1891	217,500	59	27.1
1892	221,000	161	72.7
1893	229,500	66	28.8
1894	237,500	64	26.9
1895	245,500	60	24.4
1896	253,500	57	22.5
1897	261,500	36	13.8
1898	269,500	58	21.5
1899	277,500	35	12.9
1900	285,704 U. S.	50	17.1
1901	295,000	58	19.6
1902	305,500	60	19.6
1903	316,500 State	53	17.1

This record shows that while the population of the city has grown from 177,500 in 1887 to 316,000 in 1903, the death rate from typhoid fever has fallen during this period from 42.6 per 100,000 of inhabitants in 1887 to 17.1 per 100,000 of inhabitants in 1903, with the exception of the year 1892 when it rose to 72.7 per 100,000 and has been as low as 12.9 in 1899. During the year of 1892, Black River at Port Huron which receives the sewage of that city, was deepened and the dredging emptied into

the St. Clair River. It was during the continuance of this work that there was a large increase of typhoid fever in Detroit which has been attributed to this cause. Excepting for this one year there has been a gradual decrease in the death rate from typhoid fever in our city. If the infection in typhoid fever during this period had been due to a polluted water supply, then the number of deaths would naturally have kept pace with that of the growth of the city. The fact they have not but have decreased, indicates the infection has come through other channels than that of the city water and the lowering of the death rate has probably been due to improvement of the sanitary condition of the city by enforcement of our sanitary regulations. That water is a channel by which infection from a typhoid fever patient can be carried to others, has been so thoroughly established it needs no demonstration here. What has been said was to show the purity of our supply in the past, but conditions have now arisen which will soon cause its pollution and may at any moment cause epidemic from this dreaded disease. Until the present time no public sewer emptied into the river above the intake pipe of our water system. During last summer and the past winter, however, a public sewer has been constructed to drain the territory lying east of the city above the water works, and empty it into Connors Creek which flows into the river about $\frac{3}{4}$ of a mile above our present intake. This old intake is to be used even after the new one at the end of the tunnel is put in operation. Investigations made by the engineers of the Water Department show that the water from this creek flows down by the old intake pipe and therefore will be a channel for pollution, and as soon as the new sewer system is used by a typhoid fever patient, infection in this disease will be brought to our water supply. The danger from such pollution was foreseen by both the Board of Health and the Water Department, who thoroughly investigated the situation and made report of their findings to the Common Council in the Spring of 1904. At a joint meeting in the Fall of 1904 between the Board of

Health, Water Department and the Council committees on health and sewers, the engineers of the City, Water Department and Board of Health, recommended the building of an intercepting sewer along Jefferson Avenue up to the Grosse Pointe Farms on Lake St. Clair, which should be large enough to receive the drainage of intervening territory and bring it down and empty it into the river below our water system. Their recommendation was approved and steps taken to make possible its construction during this summer. For the best interests of all parties concerned, annexation of this territory was deemed best and the proper way to enable the city to control in the future this serious problem. The steps necessary to bring these plans to a successful termination failed to receive the approval of the Legislature and consequently work is at a stand still at the present moment.

The possibility for a serious pollution of the water supply of this city has now been established and it is only a question of time when it will be sufficient to be felt in the city.

Respectfully,

A. B. RAYMOND,
Sanitary Engineer.

REPORT OF CHEMIST AND BACTERIOLOGIST.

July 1, 1905.

Guy L. Kiefer, M. D., Health Officer, City of Detroit, Michigan:

Dear Sir:—I respectfully submit the following report of the work done in this department during the past year, ending June 30th, 1905:

Bacteriological Examinations.

Cultures for Bacillus Diphtheriae	624
In which Bac. Diph. was found	286
In which Bac. Diph. was not found	338
Sputa for Tubercle Bacilli	283
In which Bac. Tbc. was found	135
In which Bac. Tbc. was not found	148
Examinations for Diplococcus Gonorrhoea	26
Blood for Widal Agglutination test	7
Blood for Haematozoon Malariae.....	5
Examinations of water	130
Examinations of milk	662
Wisconsin Curd test	19
Animal inoculations	42
Microscopical examinations of meat (tuberculosis, trichina, etc.)....	7
Miscellaneous examinations (testing disinfectants, etc.).....	181
Total Examinations	2,893

Chemical Analyses.

Examinations of Milk	1,524
Examinations of Milk below standard	68
Examinations of Cream	16
Water analyses	20
Examinations of Milk for preservatives	722
Miscellaneous food analyses	30
Experimental analyses	53
Quantitative analyses of formalin	3
Estimation of alcohol in beer	7
Determination of carbon di-oxide in air	118
Total	2561

Miscellaneous.

Photographs taken for Smoke Inspector	44
Number of times in court	25
Visiting hospitals, theaters, street cars ets, to examine air.....	
Diphtheria sets prepared	740
Culture media prepared, cubic centimeters	21 800

Milk.

During the past year 1,524 samples of milk have been analysed, 68 or 4.4% of which were below the legal standard which is as follows:

Total solids not less than	12.5%
Butter fat not less than	3.0%
Water not more than	87.5%
Specific gravity between	1,029 and 1,033

The dealers offering these samples for sale were prosecuted by the milk inspectors, and convictions obtained.

During the warm weather all samples of milk were examined for preservatives, but neither Formaldehyde or Boric Acid were found. Analyses of a few of the principal preservatives sold in the city are here given, they depend for their action on Formaldehyde or Boric Acid.

"Freezine," manufactured by B. Heller & Co., Chicago, Ill., contains about 5.20 % of formaldehyde.

"Cream Albuminoid," Preservaline Mnfg. Co., New York City, contains about 50.4% boric acid, with some nitrogenous substance, probably gelatine.

"M" Preservaline, for milk and cream, Preservaline Mnfg. Co., contains about 97.82% boric acid.

"Special M Preservaline," Preservaline Mnfg. Co., contains about 2.00% formaldehyde.

The bacteriological examinations made during the year show that there is considerable room for improvement in this respect. Milk is the exclusive diet of infants, and when we consider the large number of infants suffering from gastro-intestinal disturbances during the summer months and that these conditions are the result of bacterial infection, the importance of reducing the bacteria in milk to a minimum number is brought before us. The new ordinance requiring all milk to be kept at a temperature of 50 degrees

F, until delivered to the customer should do much in this direction as below that temperature but few bacteria will multiply and even the few species that do are of the non-pathogenic variety. The relation of the temperature to the multiplication of bacteria is well demonstrated by the following table which is based on the results of a number of bacteriologic tests made during this year in the laboratory. The plates in these tests were made on the farm out of the pail as the milk was drawn from the cow, samples of the milk were then placed in sterile bottles and kept at a stated temperature and again examined to determine the increase of bacteria, where possible samples of the same milk were obtained on the street as they were delivered to the customer and also examined.

Number of Sample.	Specific Gravity at 60° F.	Percentage of Butter Fat.	Number of Bacteria per c. c. in pail as drawn from the cow.	Number of Bacteria per c. c. after straining and cooling.	Number of Bacteria per c. c. after keeping at a temp. of 45° F., for 14 hrs.	Number of Bacteria per c. c. after keeping at a temp. of 80° F., for 14 hrs.	Number of Bacteria per c. c. in milk as delivered to the customers.
1	1.032	3.2	9,200	18,800	49,000	515,000	650,000
2	1.030	4.0	25,600	264,000	430,000	330,000	1,400,000
3	1.030	3.2	1,300	13,900	52,000	392,000	339,000
4	1.030	4.0	10,300	26,600	36,000	400,000	326,000
5	1.030	3.4	8,600	13,200	32,000	286,000	210,000
6	1.030	4.2	1,700	3,300	12,000	278,000	260,000
7	1.030	3.0	2,900	30,200	48,000	390,000	387,000
8	1.031	4.0	202,000	320,000	2,320,000	4,600,000	4,200,000
9	1.032	3.4	520	3,100	35,000	420,000	240,000
10	1.034	3.6	12,000	40,000	95,000	182,000	100,500
11	1.032	3.0	3,300	4,800	7,000	260,000	227,000
12	1.032	3.6	7,600	19,000	37,000	470,000	380,000
13	1.030	3.2	44,000	134,000	590,000	3,600,000	.....
14	1.030	3.0	8,000	43,000	610,000	2,930,000	.....
15	1.032	3.6	41,000	92,000	820,000	3,780,000	.....
16	1.031	3.8	9,700	22,000	210,000	2,320,000	.....

Milk as drawn from the udder of a healthy cow should be practically sterile (a few bacteria being in the milk ducts), but the moment it leaves the teats it is exposed to contamination from the milker's hands, the air and its surroundings. The most common stable contamination is the colon bacillus, which possesses the property of forming gas when inoculated into milk.

In order to assist in the detection of dirty milk due to careless handling, the Wisconsin curd test has been employed in this laboratory. The basis of this test is the curdling of the milk with Rennin, straining off the whey and incubating the curd at a temperature of 37 degrees C. for 8 to 9 hours. If gas-producing bacteria are present the curd on section at the end of 8 or 9 hours will show a number of holes varying in size, depending on the prevalence and gas-producing power of the individual bacteria. If, however, these bacteria are absent the curd will show an even texture (see plate).

Water.

Detroit has a water supply of which she may well be proud, a supply which is equalled by but few cities in the world. The large volume of water, which is practically constant, and but little affected by drought or floods, ensures its inexhaustibility, no matter to what size the city may grow. The point chiefly concerning us is the pollution of this supply. Until lately there was no drainage, excepting that from the land, emptying into the river in close proximity to the water intake; but as the river and lower lake shore has become thickly settled with summer homes, sewers have been constructed, particularly one emptying into Connor's Creek, just above the intake pipe, and which may at any time menace the purity of our water and the health of our people. The cases of typhoid fever occurring in our city can, with but few exceptions, be traced to outside infections; should, however, the excreta from one of these cases be emptied into one of the sewers discharging into the river above the intake it would pollute our water supply, and an epidemic might well occur. Analyses of the city water show it to be fairly

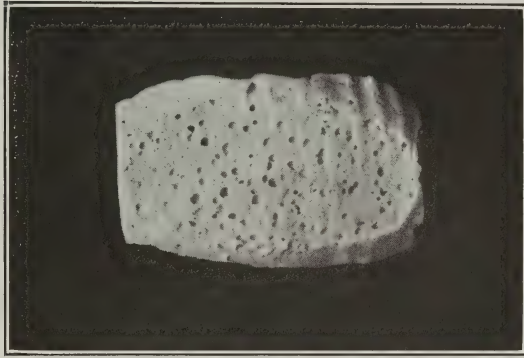


FIG. 1.--Curd from bad milk, a number of gas holes.
(Photo by E. H. H.)

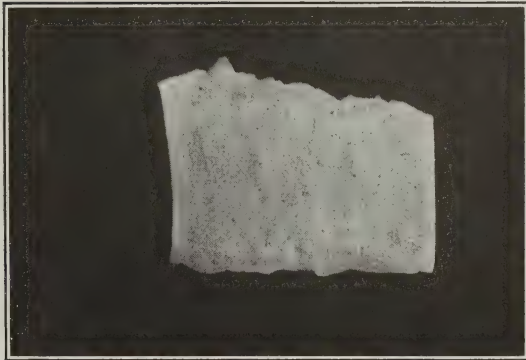


FIG. 2.--Curd from good milk, firm even texture.
(Photo by E. H. H.)

constant. In the spring the ice coming down the river stirs up the shallow water of the Flats and Lake St. Clair, and the amount of suspended matter, both organic and inorganic, in the water is considerably increased. The reservoir at the water works contains much organic matter, and at times this finds its way into the mains. With the opening of the new intake tunnel, which is now completed and which leads into 30 feet of water at a distance of over 3,000 feet from the shore, much of the danger from sewage pollution should be eliminated; although the fact that a sewer opens so close to a water intake and that the current of sewage is liable to be deflected towards that intake is a subject to be always borne in mind. Bacteriological examinations of the water at the new intake show it to contain but few bacteria (80 to 100 per c. c.), all of which are harmless. During the past year we have followed the method adopted by the Michigan Hygienic Laboratory in examining the water; this, in connection with the chemical analysis, gives a good insight into its condition and enables us to detect bacterial contamination dangerous to the health of the public.

The seasonal variation in the bacterial count of the Detroit River water follows that noted by observers in others streams, and is due to two causes. First, during the summer months the water flowing in open rivers is largely derived from springs and subterranean courses, whilst in the autumn and spring months there is a much greater proportion of "run off" water contaminated by contact with the surface of the earth. In the second place, during the rainy season the amount of dissolved organic matter in the water is greater than in summer, thus making the food supply of the bacteria more abundant.

An average of the bacterial count per c. c. for each month during the past year is as follows:

1904						1905					
July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June
229	111	151	187	235	203	270	265	551	490	229	320

Analysis of Detroit River water, made June 27, 1905, collected from laboratory tap:

Appearance.....	Nearly clear
Temperature.....	19.0C
Total solids.....	127.600 per million
Volatile solids.....	52.800 " "
Nonvolatile solids.....	74.800 " "
Silica.....	21.200 " "
Aluminum and Iron Oxides.....	31.600 " "
Calcium Oxide.....	9.500 " "
Magnesium Oxide.....	2.700 " "
Sulphates as SO ₃	7.000 " "
Sodium Chloride	2.600 " "
Free Ammonia.....	0.074. " "
Albuminoid Ammonia.....	0.104. " "
Oxygen absorbed in 4 hours.....	0.856. " "
Oxygen absorbed in 15 min.....	0.680. " "
Nitrates.....	0.186. " "
Nitrites.....	None
Bacteria per c. c.....	217.
Animal inoculated.....	Recovered

Diphtheria and Tuberculosis.

The number of examinations in cases of suspected diphtheria this year was 624, 45.8 per cent of which contained the Klebs Loeffler bacillus. The bacteriologic findings in diphtheria are of little value unless taken in conjunction with the clinical findings (this holds good in all laboratory work). Park, of New York, says: "In judging cultures received from physicians in general the greatest care must be taken." There are many ways in which a culture taken from a case of diphtheria may fail to show the Klebs Loeffler bacillus. The culture may be made soon after the application of some antiseptic solution; it may be taken from some portion of the throat unaffected (swabs of a throat, especially in children, are not always easily made). Some physicians keep tubes of media on hand, which dry out and become unsuitable for the growth of the bacillus. In nasal diphtheria a negative result may be obtained from the throat and yet the bacillus be found in the nose. In making a diagnosis from a culture it is essential to know the duration of the disease in

the case from which it was made, because, although bacteria may remain present and alive in some throats for many weeks, it is nevertheless important to remember that they may vanish suddenly and early, and that therefore the culture cannot with certainty be relied on after the membrane begins to disappear. The absence of bacilli in a culture proves the case to be one of false diphtheria only when it has been possible to make it under the proper conditions.

In the examinations of suspected diphtheria cultures two preparations are made; one is stained with Loeffler's alkaline methylene blue, the other by Neisser's method.

Two hundred and eighty-three specimens of sputum have been examined for the tubercle bacillus, as against 71 last year; 44.1 per cent contained the bacillus tuberculosis.

Widal Reactions.

At the suggestion of Dr. Kiefer, we have endeavored to assist the physicians of the city, in doubtful cases of typhoid fever, by examining the blood from patients as to its power to agglutinate the typhoid bacillus. The dilution used has been 1-60, and agglutination taking place in 30 minutes is accepted as positive. This is a new departure in this laboratory, and on this account the examinations made so far have been but few. Undoubtedly it will be of great value in the future to the physicians in the city as an aid in the diagnosis of doubtful cases of typhoid fever.

Examination of Air.

This work has been directed this year in determining the purity of the air in street cars, hospitals, theaters and public buildings. The results of the examinations are published in a joint report by Mr. Raymond and myself.

Original Investigations.

Some original work has been done on the subject of "the fly as a carrier of tuberculous infection," a report of which in detail was printed in the New York Medical Journal. It has been proved by experiments that the common house fly will ingest tubercular mate-

rial, especially sputum expectorated by a person suffering from pulmonary tuberculosis, and that this infectious material will pass through the fly with its virulence unaltered, and be deposited promiscuously with the excreta, thus being scattered broadcast on articles of diet, etc., to be undoubtedly frequently taken into the human system.

Respectfully submitted,

E. H. HAYWARD, M. D.,
Chemist and Bacteriologist.

JOINT REPORT OF SANITARY ENGINEER AND CHEMIST.

Detroit, July 1st, 1905.

Guy L. Kiefer, M. D., Health Officer:

DEAR SIR—We herewith submit our joint report on the relative purity of air found in our street cars and other public buildings as given below:

Examination of Air.

Results of investigations to determine the relative purity of air as shown by the carbon dioxide and humidity tests, during the winter of 1904-1905.

Carbon dioxide in its self is not injurious in the quantities found nor the degree of humidity. As an increase of either in occupied rooms over that found in the outside air, is directly due to exhalations from those in the rooms, they afford us a means by which we can tell how well the vitiated air of the room is being replaced by fresh air from the outside. With only a very slight variation (generally being within 1 part in 10,000 parts), the outside air the world over contains on an average 3.5 parts of carbon dioxide in 10,000 parts of air, the lowest being on the ocean and in the open country and the highest in our cities.

From a series of tests of the outside air of Detroit, the variation was found to be from 3.0 parts on the river to 4.5 in the center of the city, averaging 3.7 parts in 10,000 parts of air.

When this amount does not exceed 7 parts in 10,000 parts of

air it is generally conceded as evidence of good ventilation. Excepting for special cases where a high degree of purity is required as in hospitals and schools, the following may be taken as a fair standard of requirement where healthy adults are to be found, namely:

For good ventilation from 3.5 to 7 parts.

Permissible 7.0 to 15 parts.

Correction needed when above 15 parts.

Conditions very bad when above 30 parts.

Tabulating results obtained, we have the following showing of the different places where our investigations were conducted.

Hospitals.

Room		Number Present	Temperature	Humidity	Carbon dioxide	Remarks
ST. MARYS						
Ward	G.....	6	67	30	12.0	Steam heat by direct radiation, ventilation by gravity. Poor.
"	14.....	12	70	25	11.5	
"	8.....	5	71	27	14.0	
"	R.....	1	76	25	12.0	
Hall	.....		73	25	13.7	

HOSPITALS—Continued.

Room	Number Present	Temperature	Humidity	Carbon dioxide	Remarks
HARPER HOSPITAL					
Ward 216.....	5	71	23	16.4	Steam heat by direct radiation, ventilation by gravity Poor.
“ 247.....	4	67	33	12.4	
Newberry Ward.....	6	72	2	17.0	
Hall 1st Floor.....		72	24	12.3	
“ 3rd “		70	29	18.5	
GRACE					
Ward 9.....	11	71	33	17.8	Steam heat by direct and indirect radiation, ventilation by gravity. Poor.
“ 5.....	10	69	32	12.0	
“ 3.....	3	71	23	11.0	
Hall 2nd Floor.....		73	25	17.0	
“ 1st “		70	29	8.2	
WOMAN'S HOSPITAL					
Sick Ward.....	6	80	20	13.2	Steam heat by direct radiation, ventilation by gravity Poor.
Baby “	8	78	18	17.0	
Nursery	19	76	19	12.0	
Hall 3rd Floor		76	19	13.6	
CHILDREN'S FREE HOSPITAL.					
Kindergarten.....	17	73	22	10.0	Steam heat, fan ventilation. Fair.
Medical Ward.....	8	69	32	8.0	
Eye and Ear Ward.....	15	66	33	13.0	
Hall		75	24	11.8	
EMERGENCY HOSPITAL					
Men's Ward.....	5	65	35	20.0	Steam heat by direct radiation, ventilation by gravity Poor.
Woman's Ward.....	1	67	33	19.9	
Men's Ward	3	71	27	14.8	
Woman's Ward.....	1	73	25	12.4	
Hall		73	25	14.6	
DETROIT SANITARIUM					
Men's 3rd Floor.....	2	73	29	17.0	Steam heat by direct radiation, ventilation by gravity Poor.
“ 2nd “	2	69	35	17.0	
Private Room.....	1	74	31	11.8	
Hall.		74	26	9.0	

HOSPITALS—Continued.

Room	Number Present	Temperature	Humidity	Carbon dioxide	Remarks
RED CROSS HOSPITAL					
Ward 2nd Floor.....	1	66	32	14.2	Steam heat by direct radiation, ventilation by gravity Poor.
“ 1st “	4	74	36	14.2	
Hall.....		68	31	10.0	
ST. LUKES CHURCH HOME					
Private Room.....	1	75	16	9.0	Steam heat by direct radiation, ventilation by gravity Good.
Men's Ward	2	74	20	10.0	
Woman's Ward.....	5	76	22	9.0	
Hall.....		72	21	8.2	
HOUSE OF CORRECTION					
Sick Ward.....	1	56	25	8.7	Steam heat by direct radiation, ventilation by gravity Good.
“ “	1	68	20	7.5	

Harper Hospital.**DIPHTHERIA HOUSE.**

ROOM	CARBON DIOXIDE	REMARKS
Ward off of office.....	20 3	
Front room up stairs.....	28.0	Dr. Sackrider's room
Room on right side up stairs	18.0	One window open
Office.....	17 0	Open grate fire burning

SCARLET FEVER HOUSE.

Ward up stairs.....	14 0	
Ward down stairs.....	14 0	One open window

Street Cars.

			CARBON DIOXIDE IN 10,000 PARTS OF AIR
Wyandotte, Suburban inbound,	4:50 p. m.,	23 passengers	19.6
Baker.....	5:55	" 47 "	28.0
Woodward, rear door open,	7:00	" 23 "	17.4
Third.....	8:00 a. m.,	38 "	30 0
Michigan.....	8:10	" 25 "	18 0
Michigan.....	5:20 p. m.,	39 "	32.0
Crosstown, Rear and side door open, .	4:55	" 36 "	16 0
Sherman.....	5:12	" 26 "	20 8
Wyandotte, Suburban inbound,	5:25	" 33 "	28.0
Jefferson	5:36	" 18 "	20 8
Chene	5:45	" 61 "	32 2
Chene	5:50	" 61 "	41.6
Gratiot.....	6:18	" 53 "	32.0
Brush.....	6:30	" 35 "	14.6
Third.....	7:45 a. m.,	35 "	40 3
Fourteenth, up Hastings.....	12:30 p. m.,	31 "	17.3
Pontiac, outbound,.....	1:20	" 35 "	38.8
Pontiac, outbound,.....	1:35	" 11 " (smoker)	51.2

Public Buildings.

LOCATION	Number Present	Temperature	Humidity	Carbon Dioxide	Remarks
COUNTY JAIL.					
1st floor—					Steam heat direct radiation, ventilation by gravity. Good.
Office.....		62	12	8.1	
Main ward for men.....		63	16	10.2	
2nd floor					Low temperature outside and low humidity.
Main ward for men.....		75	9	9.0	
Section I, for women.....		69	11	10.0	
3rd floor					
Anti-room to Men's ward (men smoking).....		71	10	11.0	
HOUSE OF CORRECTION.					
Chair shop, 1st floor.....	55	69	35	8.0	Steam heat by direct radiation, ventilation by gravity. Good.
Chair shop, 2nd floor.....	102	68	42	9.0	
Brush shop, 2nd floor.....	48	74	47	9.0	
Button shop, 2nd floor.....	63	63	46	9.0	Ventilators in ceiling, fresh air under each window.
Cell room for men.....		49	31	7.0	
Woman's work shop, over laundry.....	23	72	69	10.0	
Laundry, 1st floor, women.....	9	74	54	10.0	
Sick ward, 3rd floor.....	1	56	25	8.7	
Sick ward, 3rd floor.....	1	68	20	7.5	
MUNICIPAL BUILDING					
Judge Murphy's room.....		69	32	28.0	Steam heat by direct radiation, fan ventilation.
Judge Phelan's room.....		67	33	22.2	
Hall, 2nd floor.....		70	22	22.2	System not in operation.
COUNTY BUILDING.					
Judge Lemkie's room, basement.....	9	70	19	13.8	Steam heat by fan ventilation. Poor.
Judge Brooks' room, 3rd floor.....	53	74	23	17.0	
Judge Hosmer's room, " ".....	34	74	17	13.8	
Judge Rohnert's room, " ".....	49	72	24	14.8	
Judge Mandell's room, " ".....	33	74	23	15.8	
Judge Donovan's room, " ".....	Empty	not	in session.		
Judge Frazer's room, " ".....	Empty	not	in session.		
Hall, 3rd floor.....		69	21	17.0	

Better results can be maintained in both of these buildings by proper operation and attention to ventilating systems. Entirely neglected in the Municipal Building.

Theatres.

Time of Test	LOCATION	Temperature	Humidity	Carbon Dioxide	Remarks
	DETROIT OPERA HOUSE—Matinee.				
2 p. m.	Parquet.....	66	40	13.8	Fan ventilation by both force and exhaust fans. Fresh air admitted under each seat on Parquet floor Full house 2000 present
3:20 "	Parquet.....	75	34	13.8	
3:30 "	Balcony, top row.....	78	46	17.0	
3:35 "	Gallery, top row.....	74	43	28.0	
5 "	Parquet front, close of performance	74	43	18.0	
	Evening.				
7:40 p. m.	Parquet.....	65	35	11.0	Sothorn & Marlowe playing to crowded house, 2-300 present, all standing room taken. Temperature too high and ventilation inadequate for this audience.
8:45 "	Parquet.....	74	39	19.8	
9:50 "	Parquet.....	74	39	19.8	
7:45 "	Balcony, side.....	67	45	16.8	
8:50 "	Balcony, side.....	75	51	27.0	
9:55 "	Balcony, side.....	75	51	27.0	
	TEMPLE—Matinee.				
2 p. m.	Parquet.....	63	29	10.0	Fan ventilation by both force and exhaust fans. Fresh air admitted through flues in walls, drawn through flues from top of building. About 1400 present.
3:15 "	Parquet.....	67	32	13.8	
3:50 "	Mezanine Boxes.....	68	38	20.0	
3:55 "	Private Box, 1st floor.....	68	34	17.0	
4:00 "	Balcony, middle.....	71	37	28.0	
4:05 "	Balcony, top row.....	72	45	28.0	
4:20 "	Gallery, front row.....	71	33	28.0	
4:25 "	Gallery, top row.....	71	41	30.0	
	WHITNEY OPERA HOUSE—Matinee.				
1:50 p. m.	Parquet.....	65	27	12.2	Exhaust fans used for withdrawal of foul air. Fresh air admitted by windows. About 1200 present.
2:55 "	Parquet.....	76	31	22.0	
4:35 "	Parquet.....	70	36	15.0	
2:00 "	Balcony, top row.....	66	29	18.4	
3:00 "	Balcony, top row.....	72	42	22.0	
4:30 "	Balcony, at side.....	72	34	28.0	
3:50 "	Gallery, top row.....	70	40	21.9	
	LYCEUM—Matinee.				
1:50 p. m.	Parquet.....	63	25	8.3	Change of air by exhaust fans. Fresh air admitted by side openings. About 700 present.
3:45 "	Parquet.....	72	28	18.0	
4:40 "	Parquet.....	70	33	19.0	
1:45 "	Balcony, side aisle.....	62	32	8.3	
3:55 "	Balcony, middle.....	67	33	18.8	

THEATRES—Continued.

Time of Test	LOCATION	Temperature	Humidity	Carbon Dioxide	Remarks
AVENUE—Evening.					
7:40 p. m.	Parquet.....	65	24	16.0	Change of air by gravity, exhaust fans, used on occasions. About 1200 present.
9:25 "	Parquet.....	72	24	17.8	
10:20 "	Parquet.....	.....	.....	26.0
7:45 "	Balcony, top row.....	67	26	14.6	
9:30 "	Balcony, top row.....	73	35	19.0	
9:40 "	Gallery, top row.....	69	32	28.0	
LAFAYETTE—Matinee.					
2:10 p. m.	Parquet.....	67	49	13.8	No system of ventilation. Steam heat, direct radiation. Very small attendance, about 450 being present.
2:50 "	Parquet.....	71	52	22.0	
3:50 "	Parquet.....	73	53	22.6	
2:15 "	Balcony.....	68	50	27.6	
2:55 "	Balcony.....	72	57	32.0	
3:55 "	Balcony.....	74	59	36.0	
4:00 "	Gallery.....	71	64	32.0	

On examination of the results contained in the tables, one thing which attracts attention is the amount of carbon dioxide in the theaters at the opening of the play, which with only one exception increases during the performance.

If this increase be taken as an index to judge of the degree of ventilation taking place, it being due to respiration from the audience and the same is true of the amount of moisture found, then the theaters arrange as follows as to efficiency in a change of air. We use the figures obtained upon floor of parquet, as ventilation in the balconies and galleries is poor in all of them.

In using the amount of moisture found, we must not forget that in an unoccupied room unless moisture is being added by some artificial means, as temperature increases, humidity decreases, as the more air is heated the dryer it becomes, therefore if it remains stationary or increases, in the same proportion it indicates a lack of ventilation.

The Lyceum and Lafayette are placed last from the results from such small audiences. Note attendance in the others.

CARBON DIOXIDE.

THEATRE	Number Present	Carbon Dioxide at		Amount of Increase	Ventilation
		Opening	Close		
Detroit.....	2000	13.8	13.8	0	Excellent
Temple.....	1400	10.0	17.0	7	Good
Whitney.....	1200	12.2	22.0	9.8	Poor
Avenue.....	1200	16.0	26.0	10.0	Poor
Lyceum.....	700	8.3	19.0	10.7	Poor
Lafayette.....	450	13.8	22.6	8.8	Bad

HUMIDITY.

THEATRE	Number Present	Temperature				Humidity		
		Outside	Inside Opening	Close	Rise	Opening	Close	Rise
Detroit.....	2000	36	66	74	8	40	43	3
Temple.....	1400	18	63	68	5	29	34	5
Whitney.....	1200	15	65	76	11	27	36	9
Avenue.....	1200	10	65	72	7	26	35	9
Lyceum.....	700	12	63	72	9	25	33	8
Lafayette.....	450	34	67	73	6	49	53	4

At the time of our visit to the Detroit and the Lafayette it will be seen that outside temperature was higher than when we visited the others when lower temperatures and humidities prevailed, which accounts for the higher humidity in the Detroit and Lafayette than in the others.

On examination it will also be seen that on our first visit to the Detroit Opera House, during the first half of the performance, as temperature increases humidity decreased showing good ventilation.

Next to the Detroit comes the Temple, both of which have fan system of ventilation. At the Detroit the heated fresh air is forced in under the floor of the parquet where it rises to the

audience through 2 inch ducts under each seat and is withdrawn by exhaust fans through ducts at the side and under the stage. The heated air from the galleries and balconies flows out by gravity through ducts to the roof. At the Temple fresh air is driven in through ducts in the walls and withdrawn in a similar manner as at the Detroit. The Temple takes its fresh air from the top of building. The Detroit from an opening at the rear about 20 feet above the pavement of the alley.

At the remaining theaters, with the exception of the Lafayette where no mechanical means are employed, exhaust fans are used to pull out the air which is admitted through passage ways and windows.

In setting a standard for ventilation in our theaters as compared with the one adopted for our schools and should rightly be required for our hospitals, the difference in physical condition and time spent in the places should have weight. In our schools are young growing children confined in the rooms about four hours each day, five days in the week and nine months of the year. In our hospitals are patients weakened by disease, with low vitality, requiring the very purest air obtainable. In the theaters are generally healthy vigorous adults, perhaps once a week during the season and then only for about $2\frac{1}{2}$ hours at a time.

A second visit was made to the Detroit at the request of the owner, Mr. Clark, as patrons of the place had complained to him of there being poor ventilation causing much discomfort to them during the attendance when Southern and Julia Marlow were playing. We found the ventilation much poorer than at the time of our first visit when the carbon dioxide did not exceed 13.8 on the floor of parquet and 17.0 in the balcony, while it ran up to 19.8 on parquet floor and 27 in the balcony on our second visit. The ventilating system was not supplying the required amount of fresh air for this size of audience and the temperature was allowed to run up too high for such a crowd, which would cause a feeling of discomfort under such conditions. Not only was every seat

taken but all allowable standing room was occupied. Mr. Clark was informed that when they had such a crowd as this, the system should be run up to its fullest capacity and temperature not allowed to get above 68 or 70. He replied this would be done in the future.

In conclusion it would appear that the situations calling for improvement are those found to exist in our Street Cars, Municipal Building and Hospitals.

In the Diphtheria ward of Harper Hospital there was decided evidence of over crowding, in one instance five children in one bed. The temperatures of the building were unnecessarily high with no system of ventilation, these facts are borne out by the air analysis.

Our work also brings out the fact that the inmates of the County Jail and House of Correction live in a purer air than do those of any of the other places.

We desire to express our appreciation and add our word of thanks to the proprietors and persons in charge, for the courteous manner by which we were received and afforded opportunity for the making of our investigations.

Respectfully,

A. B. RAYMOND,
Sanitary Engineer.

E. H. HAYWARD, M. D.,
Chemist.

REPORT OF MEAT INSPECTORS.

July 1st, 1905.

Guy L. Kiefer, M. D., Health Officer:

DEAR SIR—The following is a report of the work done by us during the fiscal year ending June 30, 1905:

Inspections of Meat Offered for Sale.

31,516 carcasses beef; 68,510 dressed sheep; 33,178 dressed calves; 18,831 dressed hogs; 685,700 lbs. dressed poultry; 647,900 lbs. fish; 74 carloads of meat, sold by Schwarzchild & Sulzberger (from July 1, 1904, to April 22, 1905); Chicago beef houses—28,690 carcasses beef; 31,250 dressed sheep; 7,335 dressed calves; 1,845 dressed hogs.

Inspections of Live Stock.

Various Slaughter Houses and Michigan Central Stock Yards—24,463 cattle; 38,380 sheep; 19,568 calves; 58,500 hogs. Cadillac Square and other Markets—12,745 crates poultry. Eastern Market—668 milch cows; 695 calves (from July 1, 1904 to April 22, 1905.)

Inspections Markets, Slaughter-Houses, and Commission Houses.

Made 2,652 calls at retail markets, 1,054 calls at slaughter houses, 825 calls at 3 fish houses and 6 Chicago beef houses, 670 calls at Eastern and Western Markets, and all commission houses located on Woodbridge Street, 20 retail stalls daily at Central Market; also wholesale markets located on Cadillac Square which we visited on average three times a week.

Condemned Meats.

Spoiled and unwholesome meats—11,242 lbs., consisting of beef, pork, sausage, mutton, etc., condemned mostly at retail markets:

325 dressed sheep, 7004 lbs.	2 pork hams, 20 lbs.
228 dressed calves, 12,827 lbs.	2 boiled hams, 18 lbs.
5 dressed hogs, 465 lbs.	28 smoked hams, 367 lbs.
Smothered poultry, 2,240 lbs.	Smoked fish, 56 lbs.
Dressed poultry, 3,373 lbs.	1 bbl. tongue, 200 lbs.
Fish, 5,775 lbs.	½ bbl. cornbeef.
25 carcasses beef, 8,405 lbs.	½ bbl. pigs' feet, 100 lbs.
10 front quarters beef, 755 lbs.	1 bbl. hogs' livers.
2 hindquarters beef, 160 lbs.	1 bbl. sausage meat, 200 lbs.
4 rounds beef, 166 lbs.	1 box dressed turkeys.
7 blades beef, 285 lbs.	1 box liver sausage, 40 lbs.
9 fronts beef, 670 lbs.	9 boxes finan haddie, 900 lbs.
2 loins beef, 53 lbs.	Pigs' head, 60 lbs.
2 sides beef, 240 lbs.	53 pairs rabbits.
8 saddles veal, 230 lbs.	Live stock condemned at Michigan
8 hindquarters veal, 116 lbs.	Central Stock Yards:
9 front quarters veal, 342 lbs.	219 sheep.
2 sides veal, 48 lbs.	264 calves.
2 hindquarters mutton, 20 lbs.	71 head of cattle.
2 slunk calves.	

Stock Yards.

You will see by the statistics that the inspection of live stock at the yards has resulted in the condemnation and killing of a large number of animals unfit for food and which had it not been for this inspection would have been killed and sold in the City of Detroit. Some of these were crippled and bruised by falling in the cars and were unfit for food when unloaded. Others were diseased and were slaughtered. The principal diseases being tuberculosis, and lump-jaw, in cattle, and nodular disease in sheep.

Slaughter Houses.

There have been with but one exception very few serious complaints from the public. The one case being a slaughter house on Dequindre and Clinton Streets, which was closed for two months

by your Inspectors, slight alterations were made and then it was reopened for a short time, and complaints again being made and found to be correct, a complaint was made in the Recorder's Court and the owner convicted and fined twenty-five dollars for maintaining a nuisance.

Recommendations.

Your Inspectors deem it their duty to call attention to the necessity for more stringent regulations with regard to slaughter houses. We have noticed a growing tendency to build slaughter houses in thickly populated residence districts and gradually they are creeping in closer to the heart of the city. We can point to two such places erected outside the half mile circle within the past four months. If these encroachments are permitted to go on unchecked they will, in time, amount to a public nuisance, and we suggest, as a safeguard, that the rules of the Board of Health governing slaughter houses be amended so as to provide that no person shall erect a slaughter house within the city limits, without first obtaining a permit from the Board of Health.

Live and Slaughtered Stock.

Live and slaughtered stock delivered by interurban cars, express companies or otherwise should be inspected by your inspectors at their distributing places, whether freight sheds or other places; as the tendency is to deliver immediately so as to collect freight charges. This business is rapidly increasing, particularly on the interurban cars, and some order should be issued or an ordinance passed giving your inspectors more power in these matters.

Country hucksters are also increasing in the city, bringing in dressed meat and disposing of the same to retail meat markets without inspection. This also should be regulated by ordinance or more power given your inspectors in the matter. They should also be compelled to report at a certain time and place, and have their goods inspected and stamped before offering them for sale in the city. This is absolutely necessary for the public health.

Meat Dealers.

All meat hauled in the wagons of meat dealers should be placed in clean wagons, covered with clean cloths to keep off dust and dirt, and drivers should not sit on top of uncovered meat, the rule now being dirty wagons, dirty covers, and frequently no covers at all, thus catching much dirt and dust while driving through the streets.

In consequence of the increase of territory, also the increase of the work attached to the office of your Inspectors, we find it almost impossible to attend to the work satisfactorily, without the use of a horse and buggy, and we would recommend that this matter be taken up by your honorable body when considering next year's estimates. One man at present has to be at the Michigan Central Stock Yards two days a week. After next March these yards will be in the city and subject to orders of the Board of Health, and we would therefore recommend that the present ordinance be amended, giving your Inspectors more power in the matter of condemning live stock and their destruction when in their opinion such live stock is diseased, crippled as the result of shipping in cars, emaciated or for any other sufficient reason unfit for food.

Respectfully submitted,

JACOB L. WALTZ,

FRANK KOLB,

Meat Inspectors.

REPORT OF MILK INSPECTORS.

Detroit, Mich., July 1, 1905.

Guy L. Kiefer, M. D., Health officer:

Dear Sir—In this our fourth annual report we wish first to make explanation of the following table, and the continuation of the various fields of work which have engaged our attention in former years, before taking up those things which have been introduced or put in operation in this.

Number of samples taken	1524
Number of samples of cream taken	16
Number below standard	68
Formaldehyde	0000
Skim and watered	68
Cases in Police Court—	
(a) Violation of pure food law	11
(b) Hindering Inspectors	1
(c) Unsanitary conditions	1
Convictions	12
Appeals to Recorder's Court	2
Convictions Recorder's Court	2

As will be seen by the table and comparison with the records of former years, more samples have been taken than ever before. Amongst this large number of samples not one was found containing formaldehyde or other preservatives.

In view of this finding, we would respectfully suggest, that it is time for those seeking sensation in the milk line to drop the F. bogie and take up something new.

Our court cases occupied a great deal of our time and attention, some of them being postponed and continued ten times and more.

We wish to call your attention to the great weight these court

cases seem to have in the public mind, which the following instance will well illustrate:

After two prosecutions of one of the larger dealers, which were followed by convictions, it appeared from an examination of the company's books that there followed a falling off in business of nearly 50 per cent, and we know positively that this firm contemplated seriously selling out or going out of business entirely.

In view of this condition we have believed it our duty to proceed with great caution, and make sure that no other means would suffice to correct the trouble, before advertising any citizen's business through the Police Courts.

During the past year we have been called upon to deal with the new conditions, to us, of appeals from the decisions of the Police Courts to the Recorder's Court. One of these cases was that of a dealer who refused to allow the inspectors to take samples.

This case was heard by a jury, and a second conviction resulted. In the other case of appeal, after many delays the defendant appeared in the Recorder's Court and pleaded guilty.

In the case of one of the large creameries the inspectors became convinced that the faulty milk supply was due to the depredations of drivers of the wagons, and urged the company to separate their wholesale from their retail trade, and use the bottle system of delivery entirely in the retail.

This was refused until two prosecutions for adulteration resulted in conviction, when the system was introduced, since which time no cases of adulteration have been found in this company's wagons.

During the past year more attention than ever has been given to the fact that much of the faulty milk is below the required standard on its arrival in the city, and a fairly good line-up of a large number of the farmers shipping or sending milk to the city has been secured by repeated visits to country and city stations, these visits being extended in a number of cases to the farms themselves.

Through this means farmers whose product habitually fell be-

low standard have been either caused to raise their standard or have sought other markets.

As in former years, many complaints have been received, and, as in former years, have been of little use in locating a faulty milk supply. A majority of them have been found on investigation to be due to neighborhood disputes or differences, or financial discrepancies between milkmen and housewives, and, more than all else, the great fear of formaldehyde in the milk, even in zero weather.

Most of these complaints of suspected formaldehyde are based on some "odor" or "taste" to the milk. Now, in view of the small amount of formaldehyde used in the preservation of milk, it cannot be detected by either of these methods.

For the last four years the milk inspectors have been perfectly aware of the fact that many of the milk dealers of the City of Detroit were not conducting their business with a proper degree of cleanliness, although we know by personal investigation that Detroit's milk supply compares very favorably with other cities.

Various methods have been tried with a view of bettering the sanitary condition of these dairies. Personal visits with investigation were regularly made. The latest literature of the U. S. Department of Agriculture and State Agricultural College were put into the hands of all dealers within reach, together with the simplest rules for the maintenance of a cleanly dairy. Arrests were made for maintaining a nuisance and buildings were condemned and recommended to be torn down. Finally, extensive bacteriological examinations and comparisons were made, and the dealers with great patience shown the difference in bacteriological growth in milk handled properly and properly cooled from that handled carelessly and indifferently aerated.

These measures were nearly all flat failures. A great many small dealers were worried out of business by the constant "nagging" of the inspectors' visits, but as far as any great general improvement in the premises of the dealers who drive wagons, none resulted.

While the inspectors were on the premises the owners were very willing to clean up.

Literature and rules were interesting to read, but not to follow in practice. Our prosecutions for maintaining nuisances were unsuccessful, cases being continued or suspended.

No building condemned by us was ever torn down by direction of the police. Our tables of bacteriological statistics were sources of wonder and incredulity to the dealers who needed the lessons they teach the most, and the faulty cooling and careless handling were always the fault of some one else.

In view of the practical failure of all of the above, as far as any permanent good was concerned, your new milk ordinance was put in operation about one year ago. The chief principle of this new ordinance is that the dealer must comply with its provisions and the accompanying Board of Health rules before he can secure a license to carry on his business, and such license may be revoked after hearing by our Board, provided he fails to keep his premises and milk supply in proper condition.

This differs from our old system, from the systems of practically all other municipalities, and from the new statute of the State by which any one may secure a permit to sell milk without any other requirement than the payment of one dollar.

Our new ordinance became effective in July, 1904, but owing to the fact that city licenses are issued in May, and for one year, the dealers were all supplied until May, 1905, and nothing could be done to put the new ordinance into actual practice until that time.

In the meantime a schedule of requirements was formulated and a series of questions for answers by the dealers was devised, to be used as an application. These and the ordinance and rules were printed.

About the middle of March, a list of all dealers having been made up from our old records, a copy of the ordinance and an ap-

plication blank was mailed to each dealer, with the expectation that the blanks would be filled out and returned.

From that time until May 1 not more than a dozen of these applications were received at this office. After that time a few more were received, but the number was insignificant as compared to the number of persons in the milk business.

Thereupon the inspectors followed their old lists in visits to all these persons. A majority claimed they never received application blanks; many did not understand what they were for, and destroyed them, while some still had them at their homes and were waiting to see what would turn up next. Those not having applications were supplied, and a careful explanation was made of their use.

After this complete circuit the applications came in much more rapidly, and as quickly as possible the visits were repeated and the premises thoroughly investigated.

In about 10 per cent of instances the premises were as they should be, and licenses were granted. In the others the dealers were instructed as to what would be necessary for them to do to conform to the requirements of the ordinance and rules, and they were given a certain time in which to complete such changes, the applications being marked as "held up," with the date and reason. At the expiration of the time specified a revisit was made, at which time many of the dairies were found to have been altered as directed, and the license was granted. In others nothing had been done, or was incompletely done, necessitating one or more extra visits.

At the expiration of the fiscal year in June, 1905, there still remain quite a number of dealers unlicensed, and there are still some applications coming in, in most cases being from new dealers.

In the above the stores are not included. The changes spoken of are of great variety; they consist principally in providing more room for a stated number of cattle, or fewer cattle for a stated amount of room; the providing of sewers, proper water supply, windows, and ice vats, the excluding of pickle factory slops or

refuse, and swill or improper feed of any kind, and the removal of all milk houses and cooling vats from the same or connecting rooms in which horses or other animals are stabled.

All the above has been accomplished practically between May 1 and July 1, and through the medium of our new ordinance. Very little actual friction has arisen out of carrying out its provisions, though vexatious delays have been frequent, undoubtedly due to the fact that it is new.

In the licensing of stores not nearly as much time has been spent as in the case of dairies, as the stores sell but a limited quantity of milk and are almost all provided with suitable ice-boxes.

One cause of some difficulty with them has been that the license fee has heretofore been collected by the policemen without the storekeeper coming to headquarters.

The new milk ordinance is an unqualified success, and would be if it never accomplished another thing; we believe, however, that it is only at the beginning of its usefulness.

One provision of the new ordinance which we consider of inestimable value is that requiring milk to be kept at a temperature of 50 degrees Fahrenheit or below.

This calls for the use of ice in liberal quantities from the farm or dairy to the time it is delivered to the consumer from store or wagon.

The dealers have recognized the value of this provision, and are equipping their wagons with ice-boxes and receptacles for the maintenance of the proper temperature of milk. Wagons that never contained ice are now carrying it, and we consider this one of the greatest improvements brought about by the new ordinance.

In conclusion, we wish to say that a number of small dealers have been refused licenses entirely, some of them going out of business and selling their cows, others keeping them for their own use.

We would suggest that any person purchasing milk from a dealer not provided with a city license should communicate with us,

thereby offering us the opportunity of determining if unlicensed people are selling milk, and giving us the necessary opportunity for prosecuting them.

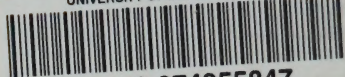
Respectfully submitted,

W. H. PRICE,

C. L. STEWART,

Milk Inspectors.

UNIVERSITY OF ILLINOIS-URBANA



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